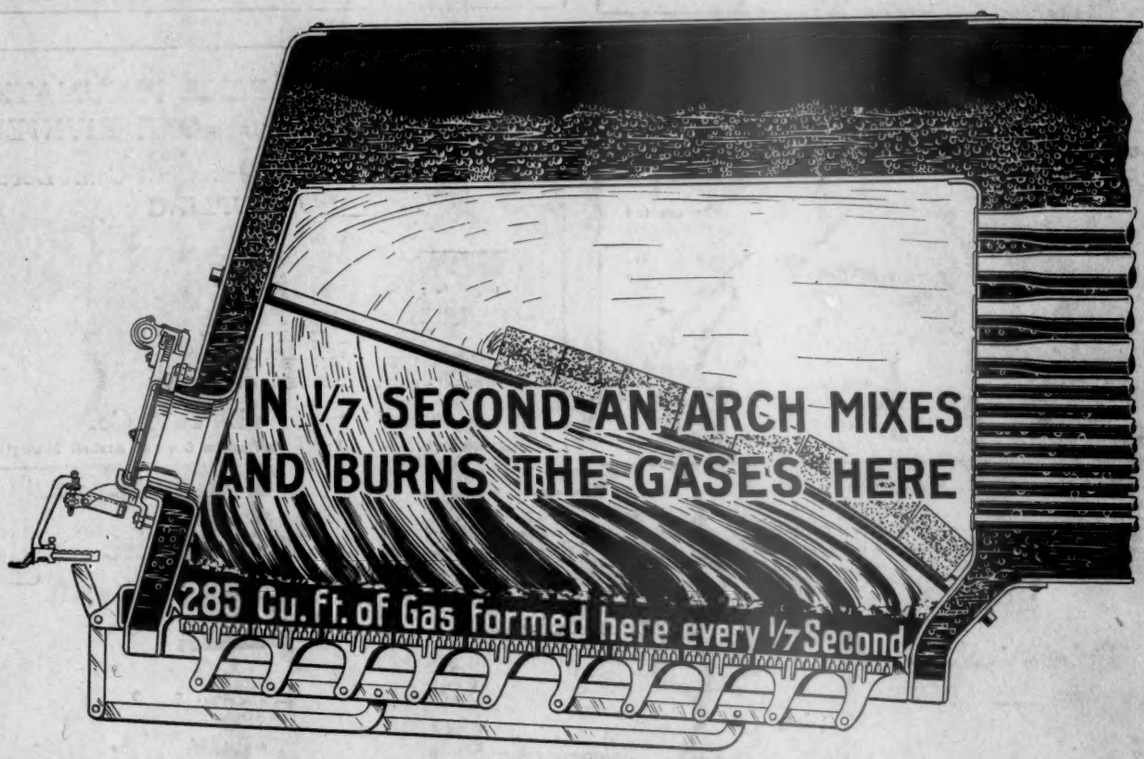
GENERAL LIBRARY
JAN 14 1919
UNIV. OF MICH.

Railway Age

FIRST HALF OF 1919—No. 2 NEW YORK—JANUARY 10, 1919—CHICAGO SIXTY-FOURTH YEAR

Published weekly by Simmons-Boardman Pub. Co., Woolworth Bldg., New York, N. Y. Subscription Price, U. S. and Mexico, $5.00 a year; Canada, $6.00; foreign countries (excepting daily editions), $8.00. Entered as second-class matter, January 30, 1918, at the post office at New York, N. Y., under the act of March 3, 1879.



SECURITY SECTIONAL ARCH

Every 1/7 Second all the gases formed in the firebox are jerked out by the exhaust.

If they are completely burned it has to be done quickly.

That's what the brick arch is there for—to mix and burn them all in 1/7 of a second.

Without an Arch it can't be done.

AMERICAN ARCH COMPANY

Locomotive Combustion Engineers

McCormick Building
Chicago

30 Church Street
New York

Alphabetical Index to Advertisements, Page 5 Classified Directory of Advertisers, Page 6

CHASE Leatherwove

The long-wearing, rich-appearing upholstery material—inexpensive and distinctive.

L. C. CHASE & CO., Boston
NEW YORK DETROIT CHICAGO
SAN FRANCISCO

The standard upholstery for over a third of a century—grades for all uses.

CHASE Goat Brand Car Plush

Chicago-Cleveland Car Roofing Company
Manufacturers of
Steel Roofs and Carlines for Freight Cars
535 Railway Exchange Bldg., Michigan & Jackson Blvds., Chicago

Poitevent & Favre Lumber Co.
LONG LEAF YELLOW PINE
Car Sills, Decking, Framing, Siding, Roofing
MANDEVILLE, LA.

Edwards Steel Lockers
Built for Strength and Durability

Require the least number of parts to complete a unit, reducing the labor of erection to a minimum. Can be erected by ordinary workmen, the only tools needed—a wrench and screw driver. Will gladly furnish sketches showing arrangement of lockers suitable for your requirements. Send specifications for estimate.

The Edwards Mfg. Co.
438-488 Eggleston Avenue
Cincinnati, Ohio

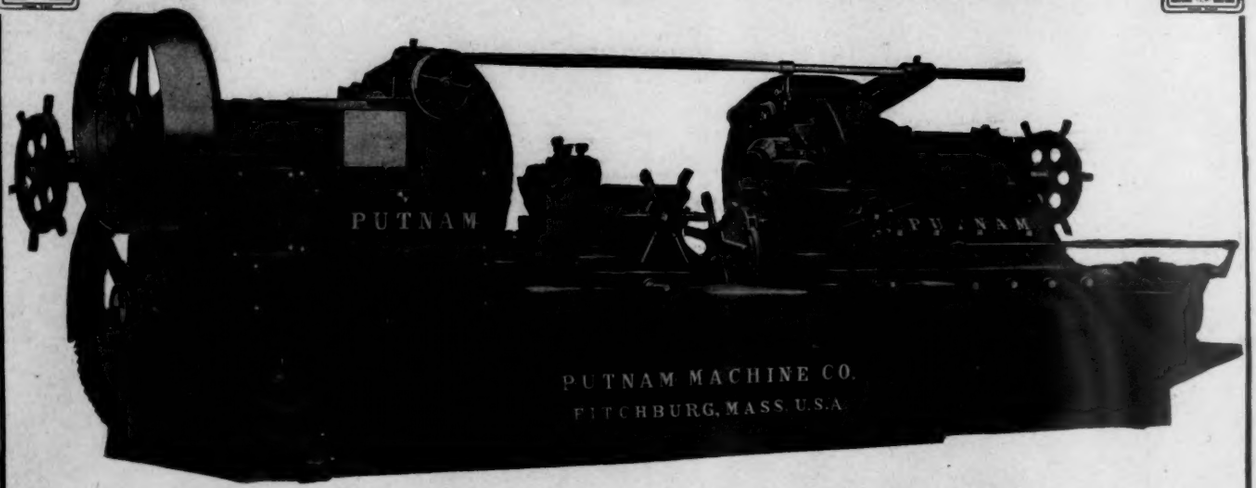
Metal Roofing — Metal Lockers — Metal Garages — Portable Buildings — Rolling Steel Doors—Partitions, etc.

Thor
ONE PIECE PNEUMATIC LONG STROKE RIVETER
The Hammer That Can't Come Loose
NO COUPLING

ONE PIECE CONSTRUCTION
INSURES UNINTERRUPTED OPERATION

Independent Pneumatic Tool Co.
Chicago New York Pittsburgh Detroit San Francisco Cleveland Montreal Birmingham

Putnam Latest Pattern 42" Coach Wheel Lathe



All Steel Gearing.
Heaviest and strongest built.
Belt or motor driven as desired.

Combination Tool Holder.
Putnam Driving Dogs.
Automatic Tailstock Binding device.

MANNING, MAXWELL & MOORE
INCORPORATED
119 West 40th Street, New York
MACHINE SHOP AND FOUNDRY EQUIPMENT OF EVERY DESCRIPTION

Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Detroit, Mich.
Mexico City, Mex.
Milwaukee, Wis.
New Haven, Conn.
Philadelphia, Pa.
Pittsburgh, Pa.
St. Louis, Mo.
San Francisco, Cal.
Yokohama, Japan

2

EDITORIAL
Railway Age

According to that part of the annual report of the director general of railroads covering the Division of Operation, the locomotives ordered by the Railroad Administration "were built from standardized designs for various reasons, the principal of which are as follows: First. To reduce to a minimum the time required to prepare drawings, patterns, and dies, and thus enable deliveries to begin quicker than where separate drawings and patterns would have been necessary for each lot of locomotives allocated to a particular road. Second. To secure quantity deliveries. This method of construction has resulted in delivery being made at a quantity rate which could not have been approached had the locomotives been ordered to individual designs. Third. It has also provided a supply of equipment, the parts of which are largely interchangeable, which is available for use anywhere in the event of congestion. This removes the necessity of carrying a large stock of repair parts particular to the locomotive and avoids delay which results when repair parts must be ordered from some distant owning road." This all sounds very nice, but it does not at all agree with the facts presented in the article in the *Railway Age* of January 3, page 50. Moreover, nothing in the above reasons could possibly influence the *Railway Age* to modify the position taken in the above-mentioned article, which clearly proved that the standardization program was a most serious mistake.

And These Are the Reasons!

The Brooklyn Rapid Transit is one of the largest street railway systems in the world. It has been a partner of New York City in building its share of the dual subway system. While some of the problems of operation are peculiar to this system and are peculiarly difficult, on the whole, it is representative of many of the best managed urban street railways. The fact that it has been so well managed in recent years and that it has had strong banking support, lays emphasis on the significance of the bankruptcy of the company. There was $2,000,000 interest due on January 1, and it was decided that it would be better to put the company into the hands of a receiver at once, rather than to try to borrow this amount of money, with no prospects of immediate relief from the impossible situation of the company. The Brooklyn Rapid Transit has been far-sighted in its treatment of its employees; it has necessarily had to advance wages, and has done so in a generous spirit, but, notwithstanding this fact, has had a strike in recent months. Fuel and all materials used in the operation of a street railway have gone up in price from 25 to over 100 per cent.; the five-cent fare, with no charge for transfers, has remained rigidly in force. It might be supposed that, since the city was a partner with the Brooklyn Rapid Transit in the building of new subways, it would have done everything in its power to help the company. On the contrary, under the present administration the city has pursued what appears to be a consistent policy of nagging obstructionism towards the company. What the Brooklyn Rapid Transit and many other street railways need is a higher fare. Anyone who knows enough arithmetic to subtract one sum from another—expenses from earnings—can prove this fact for himself.

Brooklyn Rapid Transit Receivership

There has been much complaint by railway supplymen because of the slow rate of pay on the part of the railroads since they have been taken over by the government. It was bad enough before in many cases, but is far worse under present conditions. Some of the railway supply companies are financially embarrassed because of this delay and relief should be granted promptly. One supply company states that where its specialties have been used for repairs or renewals in order to modernize equipment, its product has paid for itself in increased earnings long before the bills have been paid by the railroads. Investigation develops that this is by no means an unusual or isolated case. Government representatives are having much to say about the necessity for continued prosperity and the maintenance of high wage scales. How can these things continue if business is to be throttled for the want of funds to which it is rightly entitled? Is the government sufficiently interested in the prosperity of the country and the maintenance of high wage scales to right these wrongs for which it is responsible and which are inexcusable? Ought not the railway supply companies to unite and insist upon the universal use of the trade acceptance in dealing with the railways?

A Poor Customer

Is No Middle Course Available?

Director General McAdoo persists in contending that the only alternative policies available for dealing with the railroads are to return them at once to the competitive management of the companies, or to provide for a continuance of government operation for five years.

The objections to either of these policies are obvious, and repeatedly have been forcibly stated. What system would be tested under his five-year plan? This never has been made clear. Does he intend a test of the present policy of unified operation? It seems apparent to everybody except himself and a few others, that if the present policy of "unification" were continued five years the railways would be so "scrambled" and would establish such financial relations with the government, that they never could be returned to private management. But if his five-year plan should be adopted, would the result actually be a test of the present system? Some one else will succeed Mr. McAdoo as director general. Nobody knows what his successor's policy would be. Therefore, nobody knows of what policy we should have a test.

As to the immediate return of the railways to their owners without guarantees of net income, this would cause disaster to many companies. Some roads are earning more than their guaranteed net return, others much less. This is largely owing to the policy followed by the Railroad Administration during the last year. The ruin of numerous railway companies might cause a panic which would be disastrous to the entire nation.

However, it is not true that no course but the two mentioned is open. The country really is confronted with two railway problems. One is, what to do with the roads in the near future—say, for two years. The other is that of adopting a permanent policy of railway ownership, regulation and management. We must take some time to solve the latter problem. It can, however, be solved as well in two years

as in five. The immediately pressing question is, what policy shall be followed while a permanent solution is under consideration? The Railroad Administration itself has power to answer that question in a safe and rational way. First, the existing guarantees of net operating income can be, and ought to be, continued for perhaps two years—say, to January 1, 1921. Peace, apparently, will be signed within the next six months. The law provides for a continuance of government control not more than 21 months after the return of peace. Therefore, a continuance of the guarantees of net operating income until January 1, 1921, probably would cover a period not much shorter than the time until peace shall be signed, plus the 21 months specified by law. Morally and economically, is there any more reason why the government should pay the price fixed by it for wheat before the armistice was signed, than why it should continue for a reasonable time the guarantees to the railway companies?

It having been settled that the guarantees will be continued for two years, the railways, thus protected from financial disaster, could be returned to *operation* by the owning companies soon, and at the same time government *control* could be continued as long as the guarantees are continued. It seems constantly to be overlooked that there is a wide difference between government *control* and government *operation*. The law does not require government *operation;* it was adopted by the director general despite the fact that it was not apparently intended by Congress. The railway companies continued to operate the properties some months after government control was adopted, and the director general can restore them to operation by the companies at any time, without actual abandonment of government control.

Is early restoration of the railways to private operation desirable? It is evident that public sentiment is opposed to government ownership and operation, or to centralized management from Washington, whether by the government or a private monopoly. There is no reason to believe that public sentiment will change. Therefore, there is no reason to believe that the restoration of the roads to private operation would make a sound and satisfactory ultimate solution of the railway problem more difficult. Since it appears clear that the final solution ought not, and probably will not, involve centralized management from Washington, it would seem that the early restoration of the roads to private operation would make the final solution less rather than more difficult.

What would, or rather what ought to be the relations between government control and private operation if the former, together with the guarantees of net operating income, should be continued for two years? The directors and managers of the properties during this period would or should be allowed to exercise as to most matters the same initiative and authority they did before government operation was adopted. There would have to be some exceptions, but the return of the companies to private operation would solve some of the most perplexing problems now presented. For example, at present budgets for capital expenditures are first made by the federal managers, then submitted by them to the corporations, and finally passed upon by the administration at Washington. If the roads were returned to private operation the budgets would be made up by the companies themselves. Doubtless, while the government continued to guarantee net income they should continue to be passed upon by the administration at Washington. Doubtless while the final solution of the railway problem is in abeyance the government should prevent capital expenditures obviously having a purely competitive purpose; but, on the other hand, it should approve all expenditures intended to provide increased facilities where they are needed. As for expenditures for maintenance of way and maintenance of equipment, the government should not interfere with them insofar as they are intended to put the railways in good operating condition.

The director general in his statement before the Senate committee on Interstate Commerce last Friday mentioned specifically 17 "reforms which should be continued under peace conditions." Anybody familiar with railway conditions and the attitude of railway men, whether officers of the companies or of the Railroad Administration, who glances over this list of "reforms," will see at once that most of them ought to be and doubtless would be continued under private operation, if continuance of them were permitted. Among those which almost every railway man will agree should be continued are the following: "Maintenance of the permit system so as to control traffic at its source"; "maintenance of heavy loads for cars"; "unification of terminals"; "maintenance of the sailing date plan"; "consolidation of ticket offices"; "maintenance of the uniform freight classification"; "maintenance of common timetables between important points"; "maintenance of high demurrage rates and uniform rules"; "through way-billing of freight from point of origin to destination"; "simplification of the old practice of apportioning interline passenger revenue."

If government operation should be abandoned, and government control substituted for it, doubtless there should continue to be a director general with a small staff in Washington. It would seem there should be no difficulty in bringing about the co-operation between the various railway companies, under the supervision of the director general, which would be necessary to maintain these reforms. In fact, many of them were largely introduced under private operation, and many of the others the railway companies would have introduced but for federal laws requiring competition.

If the railways should be returned to private operation doubtless it should be understood that present wages and freight and passenger rates would be maintained while the guaranties of net operating income were maintained. What should ultimately be done about wages should be determined in accordance with future economic and industrial developments. If wages were maintained it probably would be necessary to maintain existing rates to protect the government from incurring a deficit. As for off-line agencies, the companies ought to be allowed and encouraged to restore them at least to the extent necessary to provide the shipping public with adequate service.

Two of the most important points to be considered are the effects which an attempt to continue the present system of operation, even for a short time, probably would have upon the morale of the railway organizations and upon the business of the country. An early restoration of the railways to private operation undoubtedly would have a beneficial effect upon morale. We believe it would also render it more easily practicable to proceed with the increased expenditures, both for maintenance and for improvements, which the economic welfare of the country imperatively demands shall be proceeded with. Once the companies were actually operating the properties again it should be possible for them to agree comparatively easily with the Railroad Administration as to what expenditures should be made for maintenance, and they probably would be much more disposed to use their resources in making needed improvements than if the entire management of the properties remained in the hands of the government.

Altogether aside from the differences which inevitably must arise between the government and the companies regarding matters of this kind, it is obvious that the organization of the Railroad Administration is rapidly going to pieces. Mr. McAdoo, Judge Lovett and Mr. Gray already have resigned. Most of the other high officers of the administration would like to see government operation discontinued soon because most of them hope and expect, when it is terminated, to return to the service of the companies. Most of them, it also should be added, are strongly opposed to the proposal to continue government operation for five years more.

It is not necessary in the interests of the railways, their employees or the public, as Mr. McAdoo tries to persuade us, either to return the roads at once to private operation on the pre-war basis or to hold them for five years. There is a middle course which can be adopted and which would be better for everybody concerned than either of the extreme policies which he contends are the only alternatives.

Surplus Capacity Available For Foreign Trade

IN A PAPER read before the Reconstruction Conference, held under the auspices of the National Chamber of Commerce at Atlantic City the first week of December, James A. Farrell, president of the United States Steel Corporation, said: "The task before us today in respect to foreign trade expansion, is not so much to convince, as to advise and guide. Entrance into foreign trade is no longer a matter of choice with us. Everybody in these times is ready to concede the significance of the fact that the American industries presenting the most nearly unbroken record of prosperity and sustained labor employment are those which have been accustomed regularly to market overseas from 10 to 35 per cent of their products."

The applicability of Mr. Farrell's words to the railway supply field is at once evident. The supply field, to take his first point, after having supplied large numbers of cars and locomotives to our Allies and for our own forces overseas, has come to realize the value of foreign trade and to the belief Mr. Farrell mentions, that foreign trade is no longer a mere matter of choice.

One of the outstanding features in the business of supplying materials to the railroads has been the varying amount of business that has been done year by year over any extended period. It has been emphasized again and again in these columns and elsewhere, that the railroads of this country have had the habit, brought upon them of necessity, of buying in big quantities when business was good and prices were high and of doing quite the opposite when business in general was bad and prices were low. The railway supply field has been unfortunate in that it has not had a balance wheel, as it were, in foreign trade to tide it over from one period of prosperity to the next. It has not been fortunate enough to have that 10 to 35 per cent of production for export to which Mr. Farrell refers. A perusal of the figures for locomotive and car production given in last week's *Railway Age* on pages 83 and 87, respectively, will bear out this statement. For greater convenience these totals have been reduced to a percentage basis and the percentages are shown in the following table:

PERCENTAGE OF EQUIPMENT BUILT FOR EXPORT

	Locomotives	Freight cars
1905	11	3
1906	11	3
1907	11	3
1908	20	2
1909	10	3
1910	7	3
1911	11	4
1912	10	3
1913	14	5
1914	12	..
1915	40	19
1916	34	17
1917	53	21
1918	43	34

It will be seen from these figures that in but one year prior to the war did the locomotive production for export exceed even as low a percentage of total output as 14 per cent. That year was 1908 when the export percentage of 20 was attained only because of the small domestic output. In freight cars the smallness of the production for export is even more pronounced. Never until the war has output for foreign countries even gone higher than 5 per cent of the total production. Our production of cars for export is, in other words, almost a new business for us, dating back only to 1915 when the demands of the war introduced a new element into our foreign trade.

The production of locomotives for export since 1915 has been a most important part of our total locomotive business, having reached in four successive years, 40, 34, 53 and 43 per cent, respectively. It may be an aside to note at this point that whether we should like to have it continue to attain such high percentages as were reached, particularly in 1917, is a question. It will be borne in mind that the 53 per cent foreign production reached in that year has generally been regarded since as a mistake due to sending locomotives to Russia while our own railroads were suffering from lack of motive power needed to help us "carry on" in our own part in the great struggle. The fondest lovers of export trade would not wish to have a thing of that kind happen again. They want export trade to help us in our domestic industry, not to take the place of it.

The locomotive producing capacity of this country is usually figured as being about 7,000 yearly, including both the building plants and the railroad shops in the United States and Canada. In 1906 a total production was attained of 6,952 locomotives and in 1907 of 7,362 locomotives. In no year since has the total production reached as high a figure as 5,500 with the exception of 1918, when a total production of 6,475 was attained, inclusive, however, of some 600 or more small gasoline locomotives for light railway service behind the lines. The fact that there exists a very large surplus capacity for export production in even our better years is evident.

The capacity for freight car production in the United States and Canada is generally conceded to be in the neighborhood of 350,000 cars annually. It is somewhat surprising to discover that in only one year in the last 30 at least, has the production exceeded even 250,000. The year in question was 1907 when 284,188 cars were built exclusive of the output of railroad shops, the figures for which were not then obtained. Judging by this and by the totals as a whole, given in last week's *Railway Age*, it is safe to say that the United States and Canada actually have a surplus productive capacity of no less than 100,000 to 200,000 cars annually which could be devoted to export business. In 1914, despite this fact, we sent abroad only about 15,000 cars. In 1918 we sent over only 42,941 cars, principally for war service. Even the latter total could be doubled in normal times without detriment to production for our own roads.

Emphasis has been placed again and again in the columns of this paper in recent months on the great markets for railway equipment that lie before us. We know that there is only one country besides ourselves that is in a position to export railway supplies and material to a world that has practically gone without railway material for over four solid years. That country is Great Britain and her car and locomotive plants will have such great demands upon them that they will be able to fill only a small part of them. Belgium, before the war a very large exporter of freight cars, will have to rebuild its car building plants and rehabilitate its own railways before it can again be an exporter—it will probably be an importer for many years instead. France, which lost four of its five locomotive plants in the Hun invasion, will be in a somewhat similar, though probably not so severe, position. Germany and Austria we can dismiss. The tag "Made in Germany" and disorganization due to revolution will guarantee that. In short, the markets and capacity are ours to as great an extent as we can use them.

That now is the time to make the most of all these facts is generally realized in the supply field.

For the time being apparently, there is but little prospect of new business from the Railroad Administration. The domestic railroads are out of the market for new equipment

until their future status is more settled. Supply men have long since given up hope that the government Railroad Administration would follow out the government's suggestion as expressed by the War Industries Board, to help over the readjustment period. Similarly—though for entirely different reasons—the military railroads are no longer purchasers. In short, the time has now come when the railway supply field is preparing to exploit new markets. It is fortunate in having substantial orders on hand to tide it over the transition period, if such it may be called, and fortunate in that the future prospects for both domestic business (once the domestic situation is adjusted) and foreign trade are exceedingly good.

The railway supply companies are well equipped for foreign trade. The American Locomotive Company, the Baldwin Locomotive Works, the American Car & Foundry Company, the Standard Steel Car Company, the Westinghouse and General Electric companies, the Westinghouse Air Brake Company, etc., already have large and well-organized export departments and will, no doubt, be able to make the most of the prospects available to them. It is unfortunate that so many other companies are not likewise well organized for export trade and that something has not as yet been done to take advantage of the new Webb law, permitting organization for foreign trade. As time goes on this matter will probably receive its due consideration, for it is impossible to believe that the American railway supply field is going to leave a single stone unturned to make the most of the new export business that is waiting for its usual aggressive attention.

That Elusive Surplus

REGARDLESS OF THE EFFORTS of the advocates of permanent government operation of the railroads to minimize the importance of financial results, the American public is going to weigh this consideration fully in passing upon the work of the United States Railroad Administration and in acting on the plea that this plan be given a longer period in which to make good. The director general himself has not overlooked opportunities to emphasize this feature in the past. In the hearings before Congress when the railway control bill was under consideration last winter he indicated that the government stood to gain approximately $100,000,000 a year from the start, as the net operating incomes of the roads in 1917 were approximately that much in excess of the average for the three-year period taken as a basis for fixing the proposed guaranteed compensation. In spite of this forecast we find at the end of the first year of government operation, that not only has this $100,000,000 surplus not been gained, but another $150,000,000 has disappeared with it, this being the estimated deficit from government operation during the year. In other words, the financial results have fallen $250,000,000 short of the director general's own estimate, in spite of the large advances in rates made six months ago. In the face of these figures the savings resulting from the elimination of the "high salaries formerly paid railway officers," the consolidation of ticket offices, the elimination of outside agencies, etc., to which the Railroad Administration has repeatedly pointed with pride, appear insignificant.

Serious as this deficit of $150,000,000 is, it does not tell the entire story. The government is pledged under the law to maintain the properties of the carriers under its direction to the standards existing at the time they were taken over. This it has not done. This failure in itself does not necessarily call for criticism, for it was advisable in the national interest to postpone much work which could safely be carried over in order to concentrate men and materials on those projects most essential to the winning of the war. The needed expenditures which were not made for the maintenance of the properties during 1918 cannot be avoided, but are simply deferred. In other words, the Railroad Administration is now facing a large accumulation of deferred maintenance which will enter into the 1919 operating accounts, but which really should constitute a charge against 1918, and which should be added to the deficit of $150,000,000 to give a true indication of the results for the year.

The conditions under which the roads have been operating during 1918 have made it necessary to retain in service much equipment which would normally have been retired and written off the books. Now that the crest of the traffic load has been passed and the demand for equipment has lessened it will be possible to retire many of the cars and locomotives which economical considerations would have released last year, but which were necessary to handle the business. The retirement of this equipment now will lead to a large operating charge.

In the maintenance of way field the situation is even more serious. It is possible to defer a certain class of maintenance work for a considerable period without serious trouble, but it is common experience that this work must be taken up and that it costs more to overcome the neglect later than to have done the work originally. Take the renewal of rails alone; only about 1,200,000 tons of new rails were laid in track in 1918, or over 1,000,000 tons less than normally. At the prevailing prices this alone involves an expenditure of perhaps $75,000,000 for labor and the necessary auxiliary materials. Likewise there was a decrease in the number of ties renewed of approximately 50,000,000, equivalent to an expenditure of at least $60,000,000. These are typical of a large amount of work incident to the repair and renewal of tracks, bridges and buildings which was deferred but which must be met.

It is true that the gross expenditures for the maintenance of equipment and for maintenance of way during 1918 were considerably in excess of those for preceding years, but this indicates not that more work was done but that it cost much more per unit of work. If the accumulated deficiencies in maintenance were evaluated and that sum added to the deficit already announced it would undoubtedly aggregate well over $500,000,000 as the cost to the people of the United States for the first year of government operation, or $1,500,000 for every day in the year, including Sundays and holidays.

New Books

American Engineers Behind the Battle Lines in France. By Robert K. Tomlin, Jr. Size, 9 in. by 12 in. 91 pages. Bound in board. Sold by McGraw-Hill Book Company, 239 West 39th Street, New York. Price $2.00.

In this book the Engineering News-Record has reproduced the series of articles which have recently appeared in its pages by Robert K. Tomlin, its former managing editor and the correspondent of the McGraw-Hill publications in France. Mr. Tomlin's articles cover a wide range of engineering subjects, including roadbuilding, water supply, topographical work, bridge and building construction, as well as the construction and operation of light and standard gage railways behind the lines. One of the early articles reproduced discusses the nature of the light railway, and another describes the activities of a railway engineer regiment, showing what a wide range of work such a regiment may be called upon to do. Two of the most interesting papers cover the use of the light railway behind the British front, showing not only what the light railway did on this front, but detailing the enormous amount of business it handled and how the railways were operated to carry this business.

Letters to the Editor

Are the Railroads Fair to the Public?

TO THE EDITOR:

I assume that you represent very fairly the opinion of a majority of the higher officials of the railroads in the United States, as well as of a majority of the bondholders and shareholders. Of the officials there are a few thousand, of the investors perhaps 400,000. Therefore, you speak for, possibly, half a million people. On the other hand, I look at railroad questions from the point of view of the public who use the railroads, so that I represent nearly a hundred million. And I would like to give you my opinion—which is, I think, the very general opinion—as to the present railroad situation.

First, let me say that I am opposed, and that I think the public as a whole is strongly opposed to government ownership of the railroads, for reasons too many to be stated in this letter. But I do think there is a strong public sentiment in favor of a better control of the railroads. Thoughtful people feel that the railroad officials and the investors who employ the officials are not quite honest in the attitude which inspires their conduct toward the public. They fail to recognize that common honesty requires them to give the public a fair return for the special privileges which the railroads receive, and also requires them to show the confidence in the public which they claim from the public.

Let me give you an instance of what I mean. If I have been a commuter on, let us say, the Lackawanna Railroad for twenty years, and some morning I leave my ticket at home, the company insists that I shall pay my fare to and from New York that day. Is this quite honest? The conductor knows me perfectly well, knows that I have a commutation ticket, knows that I have paid for my ride and am entitled to my ride. Yet it does not seem to be thought very exceptional. Suppose a great store like Altman's, which has to face competition, behaved in this way to customers who had actually paid for goods and to whom it had not delivered the goods, how long would it have any customers?

The company's only excuse for collecting from me money which I have already paid to them is to say that if they tried to treat a commuter fairly when he had forgotten his ticket, they would be constantly defrauded. That is just the excuse Germany gave for invading Belgium. Is there any such danger of fraud? In England, the commuter, or season-ticket holder as he is called there, receives from the company a ticket good for a month, three months, or a year. It is never punched, and on most days he does not show it at all; he simply says, "Season," and has no further trouble. Once or twice a month inspectors ask to see all season-tickets. And on such an occasion, if you have left your ticket at home, the inspector asks for your visiting card, which he turns in to the season-ticket department for verification. I once asked the head of one of the great English railroad systems if this method led to many frauds. He told me that his system spent $500,000 per annum on inspectors, but that he did not think that the fares which passengers evaded amounted to $50,000 a year. In another way the season-ticket holder's convenience is considered by the English railways. If he finds that, because he is taking a vacation, or is ill, he will not be traveling for a part of the period covered by his ticket, he mails it to the head office, to be kept there until he asks for it again, and when he does, the term covered by the ticket is correspondingly extended. In other words, the railways give full value to the passenger and do not attempt to take advantage of him on technicalities.

Is it not the duty of the railroad officials, and would it not be their best policy, to get rid once for all of the idea that everybody in the United States who is not a railroad official is dishonest? Is not money wasted, and is not the public needlessly inconvenienced, by the elaborate precautions which are taken in order that no one shall ever get a ride he has not paid for? And is not the suspicious attitude of the railroad officials toward the public partly explained by the fact that these officials know that in the past the railroads have not been strictly honest in their treatment of the public? A large Pittsburgh steel manufacturer once told me that before legislation regulated interstate commerce, he could ship his product from Pittsburgh by an Ohio river boat to Cincinnati, then put it on a Pennsylvania Railroad train at Cincinnati and haul it through Pittsburgh to New York, and pay less freight for this absurd performance than if the same load had been originally given to the Pennsylvania Railroad at Pittsburgh for transportation to New York. Today no railroad official or shareholder would dare to defend such a dishonest policy in regard to rates.

Again, is it honest for a railroad to print in its bills of lading clauses which the courts have repeatedly declared to be absolutely void and without effect? Is it honest to print on excursion tickets stipulations as to the limitation of liability which have been condemned in the same way by the courts? In both instances there can be no purpose except to deceive ignorant people so that they will not claim their legal rights.

These points I have mentioned are only slight examples of the unfairness with which the people in general believe they are treated by the railroads. I could fill your whole paper with instances of the same kind. And this unfairness, which is clearly dishonest in view of all the railroads owe to the public, will influence the opinion of every citizen who asks himself how far government control should go.

Until railroad officials realize how wrong they have been, and realize the importance of their obligations to the public, they certainly will not change their policy. Mr. Harriman ran the Union Pacific as autocratically and as arbitrarily as the German "high command" ran the German army. The Kaiser and his generals never thought of the good of the German people as a whole, but only of the power and glory of the military leaders. The only way to govern a country properly, or to manage its railroads properly, is to serve all the people honestly.

It seems to me that the railroad officials should begin by trusting the people, and then proceed to show the people that the railroads themselves are trustworthy. You have great influence with the railroad officials, and you could do great good by exerting that influence in the direction I have tried to indicate. This is the right time to raise the whole question. The reason this country showed so fine a spirit in the war is that the American people knew that the position of the allies was moral and the position of the Germans immoral. We were perfectly sincere when we took that ground, and the result is that the moral sense of our people is keener than it was before the war. A good many public questions are going to be decided by the standard of morality, and if the policy of the railroads is morally unjustifiable the people will insist upon a change of policy. On the other hand, if the upper officials and the shareholders will put their house into good moral order, I am sure that the American people of course, a vastly larger productive capacity than those of will see that the railroads are treated by the government with all the honesty that the highest morality calls for.

A THINKING AMERICAN.

German Railway Equipment for France.—Press despatches state that M. Claveille, the French Minister of Public Works, announced in the Chamber of Deputies of Paris on December 29, that France will receive 70,000 cars and 2,600 locomotives of the rolling stock which Germany must hand over to the Allies. Germany already has delivered 3,800 cars and 200 locomotives.

McAdoo's Testimony Before Senate Committee

Reviews Accomplishments in One Year of Federal Control and Urges Five-Year Test Under Peace Conditions

A REVIEW of the accomplishments of the United States Railroad Administration during the year just closed was presented by Director General McAdoo at the hearing before the Senate Committee on Interstate Commerce on January 3 in connection with his argument that the period of federal control should be extended for five years. Mr. McAdoo declared that even under the handicap of war conditions a sufficient showing has been made to indicate that the reforms accomplished are desirable as permanent measures and that the country is entitled to a more complete test of centralized management under government control.

An abstract of Mr. McAdoo's prepared statement follows:

Railroad Conditions When Government Took Control

To review the results of the past year of federal control, it is helpful first to survey the railroad conditions that immediately preceded that control.

(1) For several years, railroads in seasons of heavy business had developed conditions of transportation stringency similar to the conditions of financial stringency that characterized our banking situation prior to the passage of the federal reserve act, but the periods of transportation stringency were even more frequent and more pronounced. It was impracticable for the scores of different railroad companies to depart from their competitive practices and join in a co-ordination of facilities and effort so as to meet the traffic demand made upon them and enable them to handle their "peak load" successfully. These competitive rivalries prevented any sort of central control of the traffic itself. Therefore it was impossible to stop the loading of traffic which could not be promptly disposed of at destination, or to encourage movement to destinations where the traffic could be promptly handled. To an important extent there was inadequacy of terminal facilities and a serious lack of co-ordination and use of those in existence. In the fall of 1916 the transportation stringency reached such a point that traffic was almost paralyzed through inability to dispose of it at destination. In the fall of 1917, despite strenuous efforts, and yet under a larger degree of co-ordination than had ever before been attempted, to prevent such a situation, a paralysis of the transportation situation again occurred. These conditions were most aggravated in the territory east of Chicago and St. Louis, and north of the Ohio and Potomac rivers, but the acute conditions in this territory reacted unfavorably on the transportation situation throughout the rest of the country, damming up the traffic on connecting lines and producing congestion and distress throughout the country.

Very serious conditions of car shortages existed both in the fall of 1916 and in the fall of 1917. In 1916 the situation became so critical that a special investigation was inaugurated by the Interstate Commerce Commission, with the result that under date of December 28, 1916, Commissioner McChord made a report in which he stated that "in some territories the railroads have furnished but a small part of the cars necessary for the transportation of staple articles of commerce, such as coal, grain, lumber, fruits and vegetables."

In its report of December 1, 1916, the Interstate Commerce Commission, after reviewing the car shortage situation in detail and telling of investigations into conditions at widely separated points, said:

"Substantially all told the same story of failure of transportation facilities and resulting embarrassment and losses. It abundantly appeared that the movement of loaded cars was in the main and on the whole very slow. The time of movement of grain from Iowa points to Chicago was shown to be as low as 2 days and as high as 25 days, the greater part taking from 4 to 8 days. Serious delays to loaded cars in switching to points of unloading at large terminals and in passing through such terminals out to other cities, explained much of the failure in car service."

I need not recount the varying expedients adopted by the railroads under private control to bring order out of the railroad chaos, none of which was adequate or successful. The railroad executives of the country tried valiantly during 1917 to solve the problem. Most of them patriotically sought to find means of keeping the transportation system functioning. Competitive and private control, however, were unequal to the task.

(2) The great movement of traffic overseas without satisfactory co-ordination of rail and ocean transport, the heavy building operation in the way of construction of cantonments, shipbuilding plants, storage depots, munitions plants, etc., the transfer to war activities of the ships and tugs of the coastwise service, thereby throwing still another new burden on the railroads, the increasing and exacting movement of troops,—all these operated to accentuate difficulties and develop the grave weaknesses inherent in the unco-ordinated competitive activities of all the different railroad companies.

(3) These difficulties were further accentuated by inability to get promptly new locomotives which had been ordered (but which could not be delivered because much of the locomotive output was being devoted to our Allies) and to an entire absence of any locomotives in the reserves of the railroad companies.

Many lines had entirely inadequate facilities for repairing the locomotives they own. This was shown by the fact that up to December 14, the total number of locomotives sent to other line shops for repairs were 2,220. For instance, 423 locomotives of the Baltimore & Ohio were repaired in the shops of other lines, while B. & O. shops repaired only 24 locomotives belonging to other lines, leaving the net assistance received by the B. & O. 399 locomotives. Two hundred and one locomotives of the Pennsylvania Lines West were repaired in other line shops, while the shops of the Pennsylvania Lines West repaired only 55 locomotives belonging to other lines, leaving the net assistance received by the Pennsylvania Lines West, 146 locomotives. Thirty-six locomotives of the Central Railroad of New Jersey were repaired in other line shops, whereas they repaired no locomotives of other lines.

Prior to federal control the railroads had voluntarily transferred into the congested Eastern territory 107 engines from the West and South. The Railroad Administration, in addition, put into service in the East 130 locomotives constructed for lines in the West and South. In addition, the Railroad Administration relocated 215 locomotives already in the East. This ability to place locomotives promptly where they were most needed regardless of the interest of any particular line greatly assisted in bringing order out of chaos. Notwithstanding the tonnage handled during the year, which has been the heaviest ever known, there are now stored in good condition and ready for winter service 1,189 locomotives, while one year ago there was not a single serviceable locomotive in storage. This improved condition has been due largely to the co-ordination of shop work which

has resulted in an average increase of 20.93 per cent each week in the number of locomotives receiving classified repairs.

(4) The relations with labor were of the most unsatisfactory and threatening character. The cost of living had greatly increased. Insistent demands were urged by railroad labor for corresponding increase in wages. There was no method for an amicable adjustment of labor disputes. To a large extent there appeared to be a lack of confidence on the part of labor in the management of the railroad companies if not an actual hostility thereto. There was imminent prospect of the most serious strikes that had ever threatened the railroad situation.

(5) The financial situation of some of the railroad companies was precarious. The rapid increase in operating costs, due to increased prices of materials and supplies and the increased expense of operating under the conditions of transportation stringency, were threatening to impair the ability of many railroad companies to meet their interest and dividends, so that the railroad plight was a serious menace to the general financial situation. Even if railroad credit had been at its best instead of at its poorest, it would have been difficult at the time to raise funds for urgently needed capital expenditures because of the credit demand of the government and the high rates prevailing for money.

(6) The country was at war. Its industrial power was being turned into war channels. The volume of traffic to be transported for war purposes was steadily growing and promised to keep growing to a degree which could not be foreseen. The nation's success in the war was largely dependent upon the transportation machine functioning with an efficiency surpassing anything which had ever been known in the past. Yet all the factors were rapidly converging to produce a prolonged and serious transportation paralysis.

For these reasons the President took possession and control of the railroads on December 28, 1917. Simultaneously with his proclamation the country entered upon 10 weeks of the worst winter that had ever been known and transportation which before was slowing down in an alarming way was confronted with the danger of almost complete stoppage.

These were the conditions under which the United States Railroad Administration began its work.

Conditions Under Government Control

The principal railways and transportation systems of the country have now been under the control of the government for one year, a year marked by the participation of the United States in the greatest war in history, a year in which the railroads were required to carry a greater burden both of freight and of passenger traffic than ever before in their history, a year which began with terrific blizzards and an alarming coal shortage, a year in which enormous amounts of foodstuffs and other supplies had to be transported through the United States to the seaboard for shipment abroad, a year in which an army of millions of men had to be transported from their homes to camps and cantonments and then to the seaboard in order that they might take their places on the battlefields of France and Belgium. The year is now behind us. In the last few months there has been an entire absence of any transportation stringency, although the traffic carried was the heaviest of even this unprecedented year. The contrast between transportation conditions during the autumn just passed and the autumns of 1916 and 1917 is marked.

I shall recount some of the things that have been accomplished:

The Movement of Troops

From January 1, 1918, to November 10, 1918, a total of 6,496,150 troops were moved over the American railways, 4,038,918 having been transported on special trains. These movements required a total of 193,002 cars of all types, including 167,232 coaches for draft and regular train movements. These troops were transported in comparative freedom from accident, due largely to the steadfast maintenance of a reasonable rate of speed.

Movement of Food to Europe

The food situation in the allied countries of Europe became extremely critical in February last, representations being made by Great Britain, France and Italy that unless the program of food deliveries promised by the Food Administration was kept pace with, Germany and her associates inevitably would win the war. While the facts could not be told at the time because of the possible effect on the morale of the nations fighting the Central Powers, it was nevertheless true that according to official word received from the Entente allies, the outcome of the war depended upon the ability of the American railways to transport sufficient supplies of foodstuffs to the Atlantic seaboard for shipment abroad. This problem was met. It was no time for halfway measures. The safety of the world hung in the balance. Empty box cars were rushed from all portions of the East, South, to the southwestern grain states. Conflicting traffic of all kinds was held up. Every facility of the Railroad Administration and of the railroads under its jurisdiction was thrown into the balance. Officials and employees worked day and night. The result was magnificent. By March 15 the vessel capacity of the Allies had been satisfied and there was available at North Atlantic ports an excess on wheels of 6,318 carloads of foodstuffs exclusive of grain on cars and in elevators.

Since that time there has never been any danger of the American railways failing to transport the necessary amount of food supplies for Europe. It perhaps is not too much to say that this was one of the turning points in the war.

Coal and Other Essential Supplies

Another critical situation which faced the railroads during the year just passed and was met, had to do with the coal supply. Constant predictions have been made that the railroads would not function sufficiently to transport enough coal to supply the Nation's needs; these predictions have not been realized. New England's demands have been met, and 28,153,317 tons, the largest tonnage of coal ever known, has been moved to the Lake Erie ports, and transported to the Northwest. In 1917 only 26,826,000 tons were moved over this route; in 1916 only 24,692,000 tons, and in 1915 only 21,507,000 tons. Some indication of the freight traffic problems facing the railroads in the year just passed may be gained from the fact that there was a net increase of 741,666 cars, or approximately 37,083,300 tons of bituminous coal loaded during the 10 months ending October 31, 1918, as compared with the same ten months in 1917.

At the same time special attention was being given to the movement of fruits, of cotton, of oil, of iron, and of the other principal products of the farms, the factories and the mines of America. Wherever necessary, special trains were utilized to transport these staple articles, and other methods were made available which resulted in fully meeting the situation.

Bureau for Suggestions and Complaints

In order to furnish the public a medium for communicating directly with the Railroad Administration concerning bad service the Bureau for Suggestions and Complaints was established with very helpful results. Many constructive criticisms have been received and acted on. A total of 1,328 commendations and 714 complaints of individual discourtesy or incompetence have been received during the 16 weeks since the formation of the bureau to December 24, 1918. The commendations have outnumbered the complaints almost two to one. This in itself is a tribute to the railroad employees of the Nation. Other letters have been received calling attention

to "organic" defects in railroad service. A sharp decrease in the number of complaints has marked the return of peace and the consequent improvement of service.

Property Protection

Promptly after the inauguration of federal control attention was directed toward minimizing the enormous drain upon railroad revenues as a result of loss as well as damage to freight and the activities of thieves. When this work was begun it was found that shipments of all kinds were being tampered with and stolen. While there are not available authentic statistics as to the volume of thefts from carriers in recent years, for 1914 carriers reported to the Interstate Commerce Commission a total of $10,310,780.41 of thefts of merchandise from cars and terminals, including concealed and unlocated losses. The principal thefts have been of four classes:

(1) Thefts of merchandise from cars and terminals.
(2) Thefts of tools, machinery, appliances, brasses, etc.
(3) Padded payrolls.
(4) Embezzlements.

The following statistics reflect the activities as far as reported to the Railroad Administration of the police agencies of the carriers under the direction of the Railroad Administration from April 1, 1918, to December 1, 1918:

Arrests for thefts	10,530
Convicted	6,069
Pending	2,075
Employees arrested	3,241
Value of goods recovered	$667,578.54
Number of sentences imposed of one year or over	1,095
Fines imposed	$150,509.63

Economies

During the war period essential war necessities had to be met regardless of cost. In peace time, naturally, one of the chief aims of railroad operation should be the saving of money. But even though expense could not be made the first consideration during the war strict attention was given to this point and orders were issued to effect savings wherever possible without interfering with the war program. Many of the economies brought about, such as rerouting, common use of terminals, etc., will be reflected but slightly in the operating income accounts of the carriers for the year 1918. They will appear fully in the statements for the year 1919. Nevertheless reports so far received from five of the seven regions show that on a group of selected principal items, savings totaling $85,576,424.71 have been effected in the period from December 31, 1917, to December 31, 1918. Reports from the two remaining regions are not yet available. The specific items which produced this saving include the unification of terminals and stations, the elimination of passenger service, also reductions in organizations and miscellaneous economies.

Equipment has been saved by the elimination of non-essential passenger trains, by the common use of freight cars, the common use of repair shops, the emergency use of the Pennsylvania Hudson river tubes for the movement of anthracite coal from the Jersey terminals to Long Island, a step which could not have been taken under private control; the introduction of the coal zone plan in co-operation with the Fuel Administration, which resulted in the saving of car miles and permitted the production and transportation of several million tons more coal than would otherwise have been possible; the utilization of the Cape Cod canal for the transportation of coal to New England, the operation of locomotives under steam from factories to the point of delivery instead of hauling them as dead freight in the past, the introduction of the "sailing day plan" for less than carload freight, the establishment of special organizations to handle refrigerator and tank cars and the elimination of circuitous routes.

Unification of Terminals

It having been shown that bad terminal conditions were proving a serious handicap to the necessary transportation business, terminal managers were appointed at the larger terminals with jurisdiction over the facilities of all lines. Successful efforts have been made to route freight so as to arrive at the specific terminal where it was to be disposed of. Interchange switching in terminals has been largely eliminated. The report on operations and the reports of the various regional directors will give in detail what has been accomplished in this respect.

Solid Trains

In order to meet the extraordinary war demand and rush food and other supplies through to destination, arrangements were made early in the year for the forwarding of consolidated trains of export freight, principally war supplies, of food, grain, munitions, etc. Under this arrangement a total of 5,090 special export trains have been handled from Western terminals, containing 124,198 cars of export freight, in the Eastern region, the trains being filled out with other freight to make the full train load as required. With the concurrence and co-operation of shippers, plans were made to put into effect in June for assembling livestock, fresh meat, live and dressed poultry and perishable freight, in solid trains, and forwarding them from Chicago, St. Louis, Cincinnati, Buffalo and other Western points, on specific days of the week, via roads best fitted to handle them, resulting in a reduction in the feeding requirements for livestock and in the number of fast freight trains required to handle. In the Eastern region the decrease in Chicago alone has been 11 trains per day, and the average cars per train of high class and perishable freight has been increased from 23 to 36. Grain, oil and cotton are being consolidated and forwarded in train-load lots from Western points, resulting in a large saving in labor, in switching, eliminating cross hauls and facilitating movements. In the Eastern region alone a total of 981 special oil trains have been run since June 1 containing a total of 25,034 cars.

Elimination of Circuitous Routes

One of the most wasteful practices in railroad operation in the past has been the use of circuitous routes in the handling of freight traffic, often for competitive reasons. General Order No. 1 directed that everything possible be done to alter this condition. In order to economize in rolling stock and motive power comprehensive studies were undertaken for the purpose of developing new routes which would not only be shorter but more economical and efficient. As a result, car, engine and train miles have been saved, and the shipping public has been benefited because more cars have been available and more expeditious movement of traffic has been secured. Shippers were not responsible for the former extensive use of circuitous and uneconomical routes, as this routing was largely influenced by the agents of the interested railroads. Shippers have gladly responded to what are now the combined efforts of all railroad representatives under federal control to influence the use of direct and economical routes, and consequently the original routing as specified by shippers is now, generally speaking, in accordance with the established routing instructions, and extensive diversions are unnecessary. Therefore the increase in efficiency cannot be measured by the car miles saved through diversions of freight in transit.

The savings in distance via many of the new routes is so great as to merit special mention. One from Los Angeles to Dallas and Fort Worth is over 500 miles shorter than the one formerly used; another, from the oil fields of Casper, Wyoming, to Montana and Washington state points, is 880 miles shorter; fruit from southern California to Ogden is hauled

201 miles less; and a new route between Kansas City and Galveston has been developed which is 289 miles shorter than the 1,121 miles previously traversed via one of the lines. The ore traffic moving from Minneapolis and Michigan mines to Lake Superior and Lake Michigan ports was rerouted with gratifying results. During the ore shipping season a total of 64,770 loaded and empty cars were rerouted with a saving of 3,577,464 car miles. A few other typical cases of shortening of routes follow:

Between	And	Long route	Miles	Short route	Miles	Saving in miles
Duluth, Minn.	Chicago, Ill.	CB&Q-NP	606	Soo Line	465	141
Duluth, Minn.	Milwaukee, Wis.	CM&St.P-NP	499	Soo Line	376	123
Chicago, Ill.	Kansas City, Mo.	CGW	596	AT&SF	458	138
Chicago, Ill.	Kansas City, Mo.	C&EI-MP	573	C&A	483	90
Chicago, Ill.	Milwaukee, Wis.	Soo Line	145	CM&St.P	85	60
Chicago, Ill.	Mason City, Ia.	C&A-M&St.L	485	CM&St.P	356	129
Chicago, Ill.	Ft. Dodge, Ia.	C&A-M&St.L	490	CGW	373	117
Chicago, Ill.	Little Rock	CRI&P	1,277	C&A-MP	633	644
Chicago, Ill.	Minneapolis	CRI&P	524	C&NW	408	116
Chicago, Ill.	St. Paul, Minn.	IC-M&St.L	503	CM&St.P	412	91
Minneapolis	Des Moines, Ia.	CB&Q	614	CRI&P	270	344
Minneapolis	Kansas City, Mo.	CM&St.P	666	CRI&P	494	172
Minneapolis	Omaha, Neb.	CB&Q	736	CSt.PM&O.	377	359
Minneapolis	Peoria, Ill.	Soo-C&A	609	CRI&P	458	151
Minneapolis	St. Louis, Mo.	Soo-C&A	742	CB&Q	617	125
Portland, Ore.	Ogden, Utah	S&P lines	1,339	UP lines	857	482
Portland, Ore.	St. Paul, Minn.	UP-CGW	2,127	SP&S-GN	1,815	312
Everett, Wash.	Spokane, Wash.	NP	444	GN	306	138
Billings, Mont.	Butte, Mont.	GN	405	NP	236	169
Billings, Mont.	Spokane, Wash.	GN	762	NP	613	149
Butte, Mont.	Great Falls	CM&St.P	387	GN	171	216
Chicago, Ill.	Clinton, Ia.	CRI&P	259	C&NW	138	121
Chicago, Ill.	Sioux City, Ia.	CB&Q	615	IC	509	106

In a few instances it has been necessary to increase the length of hauls temporarily to avoid accumulations.

By rerouting, a total of 16,863,633 car miles has been saved in the Eastern and Northwetsern regions alone.

Better Operation

The operating results may be summarized briefly: The railroads during the first 10 months of federal control produced 1.9 per cent more ton miles with a *decrease* of 2.1 per cent in train miles and a decrease of 5.8 per cent in loaded car miles. The average train load increased from 655 tons to 682 tons, a gain of 4.1 per cent, and the average car load increased from 26.8 tons to 29.0 tons, a gain of 8.2 per cent. The increase in traffic in 1918 was accomplished by the use of approximately 3.4 per cent more freight cars and approximately 1.4 per cent more freight locomotives than in 1917. Compared with 1916, the 1918 increase in freight cars was 6.9 per cent and the increase in freight locomotives was 2.4 per cent.

It should be explained that the total ton miles handled are much less than they would have been in the past for a corresponding volume of traffic by reason of cutting out circuitous hauls. The general statement may be made that the actual transportation production is greater than is indicated by ton-mile statistics. In whatever degree the actual performance of moving tons from one place to another place as required is accomplished by moving the tonnage over shorter routes, to that degree the ton-mile statistics understate the real performance when they are compared with a period when the shorter routes were not used.

Probably it would not have been possible to meet the enormous demands made upon the transportation system during the past year without the utilization of the permit system, which prevents the loading of traffic in the absence of assurance that it can be disposed of at destination. This is a reform which under government control would succeed in peace times as well as in war times, and is one of the most important means of preventing transportation stringency or congestion. It means controlling the traffic at the source, in the public interest, instead of letting the traffic choke the public interest at destination.

Some of the means used to bring about the desired result were strictly war measures and probably could not or should not be utilized in time of peace. For instance, this is true with regard to the elimination of many passenger trains, although passenger trains run merely for competitive reasons are often wasteful and do not give the needed service to the public.

The Exports Control Committee, which has played a vitally important part in the proper handling of supplies for overseas shipment, probably could not be operated under peace conditions, although under unified control an important adjustment of traffic to port capacity will be practicable, even under peace conditions.

Reforms Which Should Be Continued Under Peace Conditions

Many of the changes in railroad operation inaugurated during the period of the last year should prove of permanent value and should continue if possible whatever form of control is decided upon for the railroads. Such reforms include:

1. The maintenance of the permit system so as to control the traffic at its source.
2. The maintenance of heavy loads for cars.
3. The pooling of repair shops.
4. The elimination of circuitous routes.
5. The unification of terminals.
6. The maintenance of the "sailing day plan."
7. The consolidation of ticket offices.
8. The utilization of universal mileage tickets.
9. The standardization of equipment.
10. The maintenance of the uniform freight classification introduced by the United States Railroad Administration.
11. The maintenance of common time tables between important points.
12. The maintenance of high demurrage rates and uniform rules.
13. The establishment of through waybilling freight from point of origin to destination.
14. Rendering unnecessary the rebilling by connecting or intermediate routes.
15. The elimination of the old practice of paying in mileage or per diem rental for the use of freight or passenger cars of one carrier by another.
16. The simplification of the old practice of apportioning interline passenger revenue.
17. The utilization of water routes for the relief of crowded rail lines.

Wasteful Competition

Some of these reforms can be continued should the roads be returned to private operation; others cannot. Competition and self-interest dictate that when the roads are under private control, each carrier gets as much business as possible and keep it, regardless of the fact that the aggregate result may be wasteful and uneconomical. For instance, where two or more competing lines operate between two important cities the convenience of the public can best be served if alternating trains be operated at short intervals over the different roads. Competition, however, always results in each of the roads "bunching" their trains at the times when the demand for transportation is the heaviest. Competing lines can hardly be expected to route freight over the lines of competitors, even though these competing lines may have the shorter route and be able to handle this particular traffic more economically. Lines with advantageous terminal facilities cannot be expected under private control to place such facilities at the disposition of competitors operating under less favorable circumstances. One company will not forego loading and hauling traffic even though this seriously embarrasses the general situation, because its connections cannot conveniently receive and dispose of the traffic. Private carriers may not enforce rules which, although designed to bring about efficiency and economy, might drive business away from their lines. All the waste resulting from these prac-

tices and running into huge costs, is paid for by the public in the form of increased rates.

Public Service Freight Bureaus

Under private control of railroads, and for competitive reasons, practically all railroads maintain so-called off-line agencies, the original function of which was solicitation of traffic. These off-line agencies were abandoned by the Railroad Administration for the reason that the competitive causes which gave rise to their establishment no longer existed. It was found, however, that in some measure these agencies had performed real service to the public and therefore the establishment of public service freight bureaus has been begun with a force trained to handle for shippers matters which were formerly handled by the off-line agencies.

Labor and Wages

The participation of America in the European war with the consequent shortage in man power available in this country, and the increase in the cost of living has made the railroad labor problem a difficult one during the past year. However, the great bulk of railroad labor has demonstrated a fine spirit of patriotism and has co-operated heartily with the government. The labor troubles which were facing the railroads when they went under government control were practically all eliminated and with a few exceptions there has been quiet in the railroad labor world during the last 12 months.

In order to place railroad labor upon a living wage and provide fair working conditions, an investigation into labor conditions on the railroads was begun immediately after the carriers were taken by the government, with the result that many reforms in working conditions, decreases in the hours of labor and increases in the rates of pay have resulted. These investigations have been continued since the machinery was set up for the thorough investigation and hearing of all grievances and representations about wages and working conditions. This machinery generally has recognized the so-called "bi-partisan" principal of equal representation of employer and employee on boards. Decisions, however, have always been made by the director general since he is charged with that responsibility as the chief representative of the government.

The critical labor conditions are strikingly brought out in the report of the Railroad Wage Commission. This commission heard representatives of every class of employees, railroad officials and experts on the subject and examined hundreds of written statements and personal letters from employees. The requests presented to the commission for wage increases, if granted, would have involved an outlay of something over one billion dollars per year in excess of wages paid in 1917. In its report the commission, after reciting the various demands for wages made by railroad labor in 1916 and 1917, and reviewing increases given by the railroads under private control, said:

"But these advances were not in any way uniform, either as to employments, or as to amounts, or as to roads, so that one class of labor benefited much more than another on the same road, and as between roads there was the greatest divergence. The situation has been dealt with as pressure made necessary, and naturally those who, by organization or through force of competition, could exert most pressure fared best. Things came to a head just before the government took over the railroads. Another three months of private management and we would have seen much more extensive concessions in wages, or there would have followed an unfortunate series of labor disturbances. The government, therefore, has now to meet what would have come about in the natural course. Indeed, the patience of the men was only allayed after government intervention by the assurance that the matter of wages would be promptly taken up and that the awarded increases would be retroactive as of January 1 of this year."

The commission also said: "It has been a somewhat popular impression that railroad employees were among the most highly paid workers, but figures gathered from the railroads dispose of this belief. Fifty-one per cent of all employees during December, 1917, received $75 per month or less, and 80 per cent received $100 per month or less. Even among the locomotive engineers, commonly spoken of as highly paid, a preponderating number receives less than $170 per month, and this compensation they have obtained by the most compact and complete organization, handled with a full appreciation of all strategic values. Between the grades receiving from $150 to $250 per month there is included less than 5 per cent of all the employees (excluding officials), and these aggregate less than 60,000 men out of a grand total of 2,000,000.

Wage increases granted during the year are estimated to aggregate between $600,000,000 and $700,000,000 per annum, and in a large part were retroactive from January 1, 1918. These wages were fixed not upon the theory that the railroads, a permanent industry, should compete in prices paid labor with the transient war industries, many of which paid very high wages in order to attract labor. Rather the effort was made to find a just and equitable basis which would outlive the war and which would give a living wage and decent working conditions to every railroad employee. Efforts have been made to eliminate inequalities, and while this work has not been finished it has been chiefly done.

Conditions of Employment

On February 21 General Order No. 8 was issued, containing among other things, the following: "No discrimination will be made in the employment, retention or conditions of employment of employees because of membership or non-membership in labor organizations." This has had the effect of many railroad employees joining labor unions who previously were not affiliated with them. At the same time, equal consideration has been shown employees who were not members of unions and individual employees have been heard on an equality with representatives of the unions. The principle of the eight-hour day was recognized early and strengthened whenever possible.

Special efforts have been made to better the working conditions of the women in railroad service and a special Woman's Section was established in the labor division to investigate conditions surrounding women so employed and apply remedies where unfavorable conditions were found to exist.

Labor Shortage

The necessity for manning the American military railways in France with trained American railway men, and the induction into other branches of the Army and Navy through voluntary enlistments or through the draft, of many railroad employees, added to the difficulties throughout the year, since at no time in the history of the American railroads has there been a greater need for trained and skilled railway help than during the war period. This difficulty was greatly increased by the influenza epidemic during the last half of the year, which very seriously interfered with the operation of the railroads for several months.

Expenditures for Capital Account

On February 2, 1918, all lines under federal control were directed to prepare and send in budgets of improvements immediately required to increase capacity and efficiency and to promote safety in operation. The budgets submitted in response to this called for expenditures chargeable to capital account—that is, exclusive of large sums chargeable to maintenance—amounting in the aggregate to $1,329,000,000, which upon careful revision was reduced to $975,000,000.

This amount has been increased from time to time by new and unforeseen requirements, and particularly by large orders for locomotives and freight cars, until the improvements definitely authorized to December 1, 1918, amounted to $1,254,396,158. Of this amount $551,925,525 is for additions and betterments; $656,048,745 for equipment, and $46,421,888 for construction of extensions, branches and other lines.

In planning improvements chargeable to capital account other than for war purposes, the rule adopted was that the first consideration should be *safety* in operations, and secondly, *increased capacity* where that was needed; and that any improvement not required for these purposes should be deferred until after the war unless exceptional circumstances should make it necessary earlier. Improvements designed to effect permanent economies have been left for the favoring times and conditions of peace, unless the economy was so great that substantially the entire cost could probably be saved during federal control. Much the largest item was for additional yard tracks, sidings, etc. The second largest item was for shop buildings, engine houses and appurtenances, and the third for additional main tracks, and by the large orders for equipment almost wholly for locomotives and freight cars.

In addition to the locomotives and freight cars under order by the railroad companies at the time the government assumed control additional orders were placed for 1,430 locomotives for 1918 delivery, at an estimated cost of $78,193,200, of which 542 have been delivered by the builders; and also an order for 100,000 freight cars for 1918 delivery at an estimated cost of $289,460,000, of which there has been completed and delivered to date 14,650 cars. An additional order for 600 locomotives for 1919 delivery has also been placed, involving an expenditure of approximately $37,842,268. At the time these orders were placed it was supposed that the war might last much longer than the year 1918. Practically all of this equipment has been assigned to those railroads whose need for additional power and equipment appeared to be the greatest.

The cost of coal and practically all other supplies used by the railroads increased enormously during the year just passed, as compared with the cost during the year 1917. The increased cost of fuel for the first 10 months of the present year was $140,000,000 over the cost for the same 10 months in 1917, and during the same period the cost of cross-ties and lumber increased approximately $65,000,000. The added cost of coal to the railroads increased in spite of the fact that economy in the use of coal was exercised to such an extent that, for instance, on the Chicago & North Western during the month of October the number of pounds of coal per passenger locomotive mile was 110.9 this year, as compared with 124.3 last year, and the number of pounds of coal per passenger train car mile was 19.2, this as compared with 21.3 last year, and yet the cost of locomotive fuel per locomotive mile was 34.9 cents in October, 1918, as compared with 27.9 cents in October, 1917. On the Union Pacific, during the same month the number of pounds of coal per passenger locomotive mile this year was 115.6, as compared with 131.8 last year. On the same line, during the same month, the number of pounds of coal per passenger train car mile was 13.6 this year, as compared with 18.2 last year, and yet the cost of fuel per locomotive mile was 33.2 cents in October, 1918, as compared with 32.6 cents in October, 1917. On the Chesapeake & Ohio the number of pounds of coal per passenger locomotive mile during the same month was 142.6 this year, as compared with 136.1 last year. The number of pounds of coal per passenger train mile on the same road during the same month was 24.4 this year as compared with 24.9 last year, and yet the cost of fuel per locomotive mile was 35.3 cents in October, 1918, as compared with 29.8 cents in October, 1917.

The Increase in Rates

The increases in wages and the greatly enhanced cost of coal, iron and steel and other supplies made necessary the increase of both passenger and freight rates. Flat percentage increases were necessary to obtain the required revenue, but continuing and successful efforts have been made since to eliminate inequalities naturally incident to the adoption of such a plan. These new rates did not go into effect until practically six months of federal control had passed, and therefore only approximately six months' benefits have been gained from them during the past year, whereas increased cost of labor, coal and other supplies has operated during the entire year. Economies in operation and in organization have resulted in enormous savings, but have not fully met the difference between the cost of operating the railroads and the income, for the reason stated. The benefit of these savings will not be fully realized until the operations for the year 1919 are completed.

Increased Cost Necessary

The increases in cost of operation undoubtedly would have been equally operative had the roads remained under private control. If the private owners had operated the railroads during the past year they either would have had to increase the rates as the government did or they would have had to face an enormous deficit.

Financial

From the reports of operations for 10 months, ending October 31, 1918, and with November and December estimated, the net operating income of the roads under federal control will be less by approximately $136,000,000 than the standard return or annual rental which, under the law, the government pays for the use of the railroads. This deficiency is remarkably small in the circumstances, because the increases in freight and passenger rates were in effect for only a little more than six months of 1918, whereas increased wages and increased cost of fuel and all other railroad supplies were in effect for the entire 12 months. If the increases in freight and passenger rates had gone into effect January 1, 1918, or at the same time that the increased wages and cost of fuel and supplies went into effect, it is estimated that there would have been a substantial surplus for the year of at least $100,000,000. It is to be expected, however, during the year 1919 the cost of material and supplies may be reduced, and it is also reasonable to expect that with improved operation under normal conditions, relieved of the intense pressure and excessive cost incident to the war necessity, and with a general improvement in operations and use of facilities and equipment that may be reasonably expected in peace time, many more economies can be effected. Since the object of the government should be at all times to operate the railroads not for profit, but at cost, and to render at the same time the best possible service, I confidently believe that it will be possible during the year 1919, or certainly at the end of the year 1919, to effect a considerable reduction in rates unless the traffic for 1919 should be much less than it was in the year 1918.

Inland Waterways

Hundreds of millions of dollars have been expended by the nation, the states and citizens for the purpose of developing our inland waterways, and for the construction of canals. Thousands of miles of rivers, canals, lakes and bays are ready to assist in moving our products. These waterways, with the exception of the Great Lakes, are not being extensively used. With the assumption of my present task, I appointed a committee to make a prompt investigation and to suggest a definite plan for the additional use of internal waterways, for the economical and expeditious movement of the traffic of the country, so as to relieve or supplement

the railways under the conditions caused by the war. This was the beginning of a program which has been constantly pursued and while the greater urgency for raw materials in war work interfered with the construction of steamers and barges, 160 steel, wood and concrete vessels are now building and 50 steel and wooden craft have been purchased. The total appropriation for old and new floating equipment exceeds eleven and three-quarter millions.

The increased responsibilities of this country in the family of nations will demand greater commercial activity on our part. Transportation is a major problem, for, on account of the extensive area of our country we have a longer average haul to seaboard than other industrial commonwealths. It has seemed to me evident that by developing transportation on the waterways and co-ordinating and articulating them with a unified railway system, we shall bring about a correct solution of the rail-water controversy, which has been in progress for 50 years. This is possible with the railways under federal control. I doubt if any of our rivers or canals will become active factors of transportation if the railroads are turned back to private control. The old methods of railway competition with the waterways doubtless will be revived and the waterway experiment may not be able to survive that competition.

In furtherance of the plans for waterways transportation, a division of inland waterways with two sub-divisions was created: The Mississippi-Warrior and the New York and New Jersey Canal sections.

Mississippi River.—Service on the Mississippi was inaugurated September 28 with 34 vessels. Of these, 23 are leased and 11 were purchased. The service is developing satisfactorily and as tariffs for joint rates with the railroads have just been promulgated, the valley will be afforded traffic privileges not possible in the days of railroad competition. Six steel steamers or towboats, and 40 (2,000-ton) steel barges are under construction for this service. The capacity of the federal fleet between New Orleans and St. Louis will approximate a million tons annually.

Warrior River.—Nine steamers and 24 barges were purchased for Warrior River service. Six steamers and 20 barges are about to be constructed. This fleet will be capable of carrying 600,000 tons southbound and about 150,000 tons northbound. The federal improvements on the Warrior are complete as to six feet of water, and will shortly be completed as to eight feet navigable craft.

New York Barge Canal.—The congestion existing on the railroads in the early part of 1918, and the war emergency made it essential to prepare so far as possible for such use of this important waterway as might be necessary to assist the railroads, and although it was announced officially that the canal was completed, there was practically no private building of equipment for use on the canal, and many of the old boats were being diverted to other uses. During the season the Railroad Administration leased and operated upward of 200 barges and contracted for the construction of 51 steel and 21 concrete barges. Construction was delayed on account of the war requirements for steel. It turned out that the canal had only seven feet navigable depth at the opening and it was not until midsummer that all the boats could be loaded to full capacity for operation, and as the terminals and rail connections were unfinished, an economical operation was not possible. In fact 8½ feet of navigable depth was the maximum in the canal during the season. The rail congestion of last winter was relieved before the canal season opened. The suspension of imports, the decrease in road and industrial building and the deficiency in the grain crops of 1917, affected very seriously tonnages that under normal conditions are available for this waterway. In compliance with very urgent requests of the people of the state of New York a local packet freight service was installed between Troy and Buffalo. As suitable boats were not obtainable and as the terminals were in some cases unfinished and in others inaccessible, it was apparent that the operation would not be profitable, and results justified this view. It is to be noted that although the enlarged canal was in operation all season, no activity was displayed on the part of individuals or corporations to build vessels. The Railroad Administration has repeatedly announced that it does not assume to control, nor does it in any way discourage, the operation of privately operated barges; nor does it fix the carrying rate for independent vessels. When the canal and its facilities are completed, and when modern vessels are available, it will be possible to ascertain the cost of transporting traffic on this waterway. The results obtained during this formative stage, with the unavoidably antiquated equipment, are not a criterion of what can be accomplished with a completed canal and modern equipment. The adjustment of shippers and their facilities to the use of the canal is also a matter of time, which could not progress rapidly with the conditions existing during the present season.

Delaware & Raritan Canal.—The Delaware & Raritan canal connecting the Delaware river with New York harbor from 1913 up to the present year suffered a steady decrease in business. In 1917, 272,734 tons of freight were moved. The limited draft of water and small lock structures prevented profitable transportation operation on this waterway. It became evident last spring that there would be a marked decrease in the use of the canal for transportation of coal, due to the fact that coal was to be shipped via other routes, but there was an unusual demand for transportation of miscellaneous freight between New York and Philadelphia by this route. The canal has for many years been under lease to the Pennsylvania Railroad and came under federal control as part of its transportation system. In July the New York-New Jersey canal section took charge of the floating power equipment of the Railroad Administration on the canal and December 1 the operation and maintenance of the canal was transferred to that section. The Railroad Administration also operated a fleet of packet freight ships during a part of the season. There are a number of private transportation agencies operating on this canal. In spite of the loss of coal tonnage, the total freight movement on the canal will slightly exceed 1917.

Chesapeake & Ohio Canal.—The Chesapeake & Ohio canal, connecting Chesapeake Bay with Pennsylvania and West Virginia coal fields, has been operated at a loss for several years. At the beginning of the season of 1918, it appeared that unless action was taken to support navigation on this canal, the increasing costs would cause it to cease, while the pressure of traffic at that time upon the railroads bringing coal to Washington and vicinity was so great as to make it very undesirable that they have the additional burden of transporting the coal previously carried by the canal. The Railroad Administration therefore for a time assumed the cost of canal tolls on coal, and later on made an arrangement with the only company operating boats on the canal, which insured the maintenance of the service, the Railroad Administration paying the actual cost of the service over and above the freight charges which were paid by the shipper at the same rate as for rail shipments. The Railroad Administration also furnished 10 new barges which were leased to the operating company.

Ohio River.—The Railroad Administration has established an office in Cincinnati, Ohio, for the purpose of cooperating with shippers and vessel owners and studying traffic conditions with shippers and vessel owners. In view of the fact that the projected locks and dams on the Ohio river between Pittsburgh and Cairo are not completed (the movement has not been finished even between Pittsburgh and Cincinnati) it does not seem a proper time to consider any new equipment for this route.

Lake Keuka-New York.—The service formerly operated

on this lake by the Lake Keuka Navigation Company had been discontinued, and in order to move the grape crop of 1918, the Division of Inland Waterways operated equipment of the Lake Keuka Navigation Company during the grape season.

Intracoastal Waterways.—The intracoastal waterway from Philadelphia to Beaufort, N. C., will be susceptible of greater commercial development. The projected improvement between Norfolk and Beaufort will not be completed for some time and it will require at least two years to modernize the Chesapeake & Delaware canal. The improvement ought to be authorized promptly and I hope that the Congress may grant the necessary appropriation and power to deal with the matter. The fleet operating along this route was commandeered to a considerable extent, during the war, but the vessels are being slowly returned to the owners. The fleet seems to be sufficient for normal conditions. The capacity can be considerably increased by the introduction of modern terminal methods. Ultimately, packet freight service on this route may be practicable.

Coastwise Ships

The fleets of vessels of railroad ownership were augmented on April 13, 1918, by the taking over of the vessels of the Clyde, Mallory and Southern steamship companies and the Merchants and Miners' Transportation Company, comprising 64 passenger and cargo-carrying vessels, operating in coastwise service between various ports—Boston, Mass., to Galveston, Tex., inclusive. The operation of the vessels was at times seriously interfered with by German submarines. In supporting the war policy of the nation, the steamships under federal control were used in war work to the maximum extent. The properties of the Clyde, Mallory and Southern steamship companies and the Merchants and Miners' Transportation Company were relinquished from federal control on December 6 as they are no longer necessary to the war purpose.

Cape Cod Canal

The Cape Cod canal was taken under federal control July 25, 1918, and it is earnestly hoped that it will be operated in the future by the government. Formation of shoals had reduced its navigable depth to 17 feet at mean low water when the government took control, but the Railroad Administration immediately provided $250,000 for dredging, piling, bank protection work, etc., and on October 23 the canal was opened for vessels drawing 20 ft. 6 in. of water, and the dredging necessary to restore the original depth of 25 ft. is expected to be completed by February 15, 1919. In spite of the fact that the work on the canal has not been entirely completed there has been an increase of 56.4 per cent in the number of vessels handled and 114 per cent in the cargo tonnage transported through the canal in 1918 as compared with 1917.

Standardization of Locomotives and Cars

Before government control, practically every important railroad had its own specifications for cars and engines. Practically all were different in details. Although the facts are not obtainable, it has been said that there were 2,023 different styles of freight cars and almost as many different styles of locomotives included in the equipment of American railroads prior to the war. Complete standardization of course is impossible but as rapidly as existing rolling stock and engines wear out, it ought to be practicable to replace them by standard types. During the period of federal control progress has been made. Some 12 standard types for freight cars have been agreed upon and it has also been decided that hereafter only 6 different types of locomotives of two weights each shall be purchased. The parts of these various locomotives and freight cars respectively are interchangeable. The importance of this is forcibly illustrated by an instance where a leased locomotive was held out of service until over $4,800 had accumulated, awaiting a part which would cost not to exceed $30. Where peculiar conditions exist, however, and where special types of locomotives are necessary, permission has been given to depart from the standardized type of locomotive.

Civilian Inconveniences

While such a great work was being performed, inconveniences to civilian travelers and some interferences with the transportation of ordinary freight in the United States were unavoidable. The war necessity came first; the civilian needs of America, second. With a limited supply of passenger and freight equipment available, and with a large proportion of this equipment needed for the movement of troops and war supplies, there were not sufficient cars and locomotives remaining fully to meet civilian needs; nor was there time, nor materials, nor labor to build them. This was explained to the country early in the year, and during the period of the war the people generally, when they realized the situation, patriotically accepted it and made sacrifices accordingly.

Whatever inconveniences have resulted are due entirely to war conditions and are in no way related to the fact that the railroads were under government control. Such inconveniences undoubtedly would have been greater under private control, for the supply of equipment was augmented by the ability of the government to shorten routes, to combine facilities, to pool equipment and motive power, and to introduce economies which the roads under private control could not, and would not, have introduced.

I desire to make this point as clear as possible, for it is necessary for the American people to understand the facts of the railroad situation, if this big problem is to be dealt with intelligently. Passenger equipment while crowded during the war, was crowded because much of the equipment had to be used in the transportation of troops; it was not crowded because the government had control of the railroads. As a matter of fact, many thousands of passenger train miles were saved by the ability of the government to achieve results which private owners of the roads could not or would not have achieved. During the period of federal control, every possible economy was exercised in order to save both passenger and freight equipment and make as many cars and locomotives as possible available for the war need first, and for the needs of the civilian population next.

Serving the Public

While putting the paramount war needs of the nation first, nevertheless, every possible effort has been made by the railroads under federal control to serve the public adequately and furnish every possible facility for carrying on the ordinary passenger and freight business of the nation. The railroads are public servants and in time of peace the first consideration should be to furnish adequate service at the lowest possible cost. To keep in touch with the public during the period of federal control and see to it that their needs were given every possible consideration, the Division of Public Service and Accounting was established soon after the railroads were taken over and Charles A. Prouty was made director of the division. With this object in view, traffic committees were early established, upon which the public was given representation. While these committees have no authority to change rates, nevertheless, their advice and recommendations are most helpful. What the shipping public desires above everything is stability of rates and reliability and adequacy of service. In the past thousands of rate changes have been made each month, which were worse than unnecessary. While passenger and freight service was of necessity interfered with during the war, efforts have been made dur-

ing the past year to keep in touch with state railroad commissions and other local bodies to make certain that well-grounded and important complaints should receive prompt attention.

The Future

I have given you a statement of the transportation conditions a year ago, of the transportation achievements under federal control during a year of war, and of the present situation. What remains to be considered is what permanent solution of the railroad problem should be adopted and what shall be the temporary form of railroad control pending a permanent solution. In December, 1917, there were about 180 separate operating railroad companies in the United States with operating revenues of $1,000,000 or more per year each. Seventy-three of these companies had operating revenues of $10,000,000 or more per year each. There were several hundred companies whose respective operating revenues were less than $1,000,000 per year.

Possible Solutions

Broadly speaking, there are three general permanent solutions of the railroad question. The first is to send the railroads back into the private control of the several hundred old companies. The second is to have outright government ownership and control of all the railroads. The third is to reconstruct the railroad map along logical lines so as to wipe out these hundreds of different railroad companies and substitute a comparatively few companies which under strict and close government control can be expected to combine the advantages of government control, including unified control of those things where it is needed with the advantages of the initiative of private management. I am not committed to any particular plan. I wish to lay before you certain reforms which I think are indispensable and without which any so-called solution of the railroad problem will be a mere disappointing makeshift.

I am frank to say I do not believe that these important reforms can possibly be accomplished if we are to have in the future several hundred different railroad companies as we have had in the past, or even a hundred or even fifty different railroad companies. I believe they can all be accomplished either through a comparatively few railroad companies or through single federal control. If the country prefers to continue in existence the hundreds of different railroad companies as in the past I believe it will be necessary for the country to abandon the hope of obtaining most of the fundamental reforms which I propose to point out.

The Terminal Problem

One of the most difficult and important railroad problems in this country is the problem of terminal facilities. It probably means more to the producing and consuming public in the matter of delays, inconvenience and transportation burdens than any other phase of transportation. It is generally understood that the delays and excessive costs do not occur principally on account of insufficiency of facilities on the road, but on account of inadequate terminals and of the heavy terminal costs. It is not unnatural that this should be the case. It is a far simpler proposition to haul a train over a railroad than it is to break up that train in a terminal and distribute its cars to the connecting carriers. For one thing, it is easier to provide adequate track capacity on the railroad itself, most of which runs through the country, than it is to provide adequate track capacity in a terminal which is generally in the midst of a great city. But an even more important point is that when the train is being carried over the railroad between terminals it is being handled exclusively under one management and on a railroad which has been planned with unity of purpose. But the moment a train gets into a terminal where its cars must be separated and delivered to connecting lines, then we have to deal with facilities which have not been planned with unity of purpose and which under private control are not operated under a single management. The ability of one company to get rid of the business depends upon what its connecting companies have provided in the way of terminal tracks and other terminal facilities, and upon the way in which those connecting companies carry on their operations. It is human nature that each company is much more interested in looking after its immediate exclusive interests, both in the facilities which it provides and in the way it operates them, than it is in building and operating its property so as to help its connections.

Generally speaking, the cities of this country and the railroad traffic that passes through them have wholly outgrown the railroad terminal facilities which were provided many years ago without any conception of the growth of the country's traffic. It is difficult to get the land to expand the terminals of any one railroad and each railroad company is jealously trying to prevent some other railroad from getting the advantage in new terminal facilities. Each railroad company wants to plan its new terminals so as to help its own business and so as not to help its rivals. It is true that at times under pressure of critical necessity some of the railroads at some cities try to combine a portion of their terminal plans into a joint terminal enterprise. But it takes years for the railroads to agree on any such matter, and the comprehensiveness of the particular plan is generally interfered with by the selfishness of some particularly powerful railroad which feels that it can preserve certain advantages by refusing to put into the joint plan certain facilities which ought to be put there in the public interest.

The effect is that when it comes to terminal properties we get a clear-cut conflict of interest between the public and any particular railroad company. The public wants terminal facilities comprehensively planned and carried out so as to promote the greatest convenience and economy for all concerned, but each railroad company is anxious to preserve any particular advantage which it already has and to increase that advantge when practicable. This clash of interests between the public and any particular railroad company and between the different railroad companies serving a particular terminal operates to produce deadlocks which to a large extent prevent terminals from being developed so as to meet the business necessities and so as to serve the public to the greatest advantage.

The condition exists, and is largely accounted for by the reasons above given, that the outstanding shortcomings in railroad transportation are inadequacies in terminal facilities. The great unnecessary burdens in the matter of inconvenience, delay and cost for which the producing and consuming public have to pay are largely due to these terminal conditions. There can be no successful solution of the railroad problem which does not provide a solution for these terminal difficulties. The greatest opportunity to reduce railroad costs for the future and to promote public convenience in transportation for the future will be found in the solution of these terminal problems.

Cincinnati—An Example

A concrete illustration will help to emphasize the present difficulties. Cincinnati is an important gateway between the north and the south. Three important railroads—the Chesapeake & Ohio, the Louisville & Nashville, and the Cincinnati Southern—reach Cincinnati by crossing the Ohio river. Four other important railroads—the Big Four, the Baltimore & Ohio (including the old Cincinnati, Hamilton & Dayton), the Pennsylvania, and the Norfolk & Western—reach Cincinnati on the north bank of the Ohio river. The interchange of traffic between these lines at Cincinnati is enormous, and the general public has a vital interest in this interchange being accomplished with the least possible delay and

expense. Yet conditions are such that in times of heavy traffic Cincinnati is badly congested with freight, and the ability of all the railroads mentioned, not only with respect to handling traffic through Cincinnati, but with respect to handling other important traffic, is largely hampered by the inability to get rid of the traffic which must pass through Cincinnati.

Each of the three railroads approaching Cincinnati from the south has a bridge across the Ohio river. The Cincinnati Southern bridge and the Chesapeake & Ohio bridge are so light that they cannot accommodate the heavy locomotives which are used on those roads, so that there must be a delay and cost and congestion due to the necessity for changing engines south of the Ohio river on those two roads. The Louisville & Nashville has the use of a bridge which has only a single track and is therefore entirely too restricted in capacity to handle the traffic. The topographical conditions in Cincinnati are such as to make it exceedingly difficult to find suitable ground upon which to construct terminal facilities, and the densely populated area makes terminal facilities extremely costly. A considerable part of the important terminals in Cincinnati is subject to overflow in times of high water. To a very large extent the traffic which any one railroad brings into Cincinnati is traffic which must be moved beyond Cincinnati by some other railroad, so that more than one railroad generally has an interest in providing proper facilities for all the traffic moving through Cincinnati and all the railroads reaching there have a common interest in avoiding the congestion at Cincinnati which in the past has constituted one of the most serious traffic situations in the country. Yet each of the railroad companies has its separate facilities, and while there have been various particular arrangements of a joint character it still remains true that in all the years that have passed the railroad companies under private management have never been able to get together and put into effect any comprehensive plan which would result in terminal facilities equal to the situation. It seems fair to conclude from the failure of the railroad companies in the past to accomplish this result that they probably never will accomplish it in the future under corresponding methods of private management.

At the present time there are perhaps from 25 to 30 freight houses in and around Cincinnati which, generally speaking, have been provided primarily for the particular use of separate railroad companies and without any purpose of combining all the freight house facilities so as to serve the general public to the best advantage and at the least cost.

It is evident that in view of the common interest which the railroad companies have in the traffic passing through Cincinnati some comprehensive plan ought to be worked out. No railroad company can live to itself alone in a terminal like Cincinnati. No one important structure should be planned simply from the standpoint of a particular railroad company. The entire situation should be dealt with from the standpoint of the general public interest and the selfish interests of any particular railroad company ought to be subordinated to the general interest. Yet under private management there is no way whatever in which the public can properly assert and accomplish its needs and the result both in construction of facilities and in operation is left to the haphazard play of the conflicting ideas of seven or more separate railroad companies and plans of the utmost importance are subject at any time to be defeated by the disagreement of one or more of these companies.

It is estimated that there ought to be spent in the near future about $45,000,000 in the rehabilitation of Cincinnati terminals so as to make them equal to modern public needs, with probably $25,000,000 additional for passenger terminals. Practically every item of this large expenditure involves directly or indirectly the interests of two or more separate railroad companies. In fact, virtually the whole expenditure has to be made in the common public interest and without making the interest of any one railroad company paramount as to any particular item. If this matter is left to be worked out by the separate railroad companies without any controlling public authority to shape up the whole situation for the benefit of the general public, there is no reason to believe that it ever will be successfully worked out. Certainly the railroad companies have had many years in which to work out the problem and they have never done so. If the problem is not adequately solved the result will be that a great burden of delay and inconvenience, uncertainty and cost will continue to rest upon the people of the United States simply because a thing which ought obviously to be done at Cincinnati in the public interest is not done and it will not be done because the power of government which ought to be exercised to promote the public interest is allowed to remain dormant and subordinate to the separate interests and to the disagreements of various privately managed railroad companies.

What is true of Cincinnati is true to a large extent of every important terminal in the country, particularly of Chicago and the terminals around New York harbor. In the aggregate these situations constitute a great burden and menace to rail transportation and a serious obstacle to convenience and certainty to the public in the performance of that transportation. These situations must be met if transportation in this country is to be performed at a reasonable cost and without the intolerable congestions and delays which have periodically arisen in the past.

Nor is there any just reason why railroad companies should fear that such a comprehensive development of terminals is going to interfere with any legitimate separate interests of the railroad companies in the event they shall eventually be turned back into the old form of private control. Any comprehensive plans of terminal improvement which are for the general public good will in the long run turn out to be advantageous to every separate legitimate railroad route in the country. No matter if the railroads do go back into the old form of private control with anywhere from 100 to 200 separate managements, it is inevitable that in the long run and perhaps as the result of long years of hardship upon the public, there must be some comprehensive legislative solution of these terminal problems in the general public interest. The railroads will not be injured, but on the contrary will be benefited, by a prompt public dealing with these matters.

As a simple illustration, it is evident that the fact that the Baltimore and Ohio passenger trains are now taken into the Pennsylvania passenger terminal in New York has not resulted in injuring the Baltimore & Ohio or in causing any injury to the Pennsylvania, of which it has any right to complain. The public has been enormously convenienced. If private control should return it is not to be anticipated that the public would again be subjected to the inconvenience and delay and expense incident to the Baltimore & Ohio going back to the use of its old and inconvenient passenger terminal at Communipaw, N. J.

Transportation Stringency Through Failure to Control Traffic

The situation exists in this country that the transportation needs of the people are national and interdependent, despite the fact that the railroads are local and independent. Practically every community in the country is dependent upon a national and not a local transportation service. It is not true of any community that it can depend wholly, or even principally, upon its local railroad to transport what it produces and what it consumes, because, directly or indirectly, what it produces must in some form go far beyond that railroad and what it consumes must in some form originate beyond that railroad.

Perhaps the greatest single difficulty is that under private management, with each company trying to prevent any traffic going to a rival, the amount of freight loaded has been dependent almost wholly upon the desire and opportunity of the consignor to load a shipment and get a bill of lading for it, without any regard whatever to the ability of the delivering railroad to dispose of the traffic at destination at that time, or of the ability of the consignee to receive the traffic, if delivered. The result has been the indiscriminate throwing into the stream of traffic of everything which consignors wished to throw into it, and this has led to the most acute congestion at or near destination, analogous to an "ice jam" or "log jam" in a river. This consequence has been injurious to the public as a whole, because it has reduced transportation capacity far below what it ought to be, has led to the greatest uncertainty and delay and consequent interruption and injury of business, with direct disadvantages to labor and to the producing and consuming public. It is apparent that this fundamental difficulty has not been effectively dealt with under diversified private management. It is difficult to see how any railroad company would be willing deliberately to prevent the loading of traffic on its own line, when it is able to handle that traffic, simply because eventually the traffic may be a source of embarrassment to some connecting line.

Met by Unified Control

These conditions have been substantially met under unified control by the routing and distribution of traffic over the available lines and by the establishment of the "permit system," whereby traffic involving potentialities of congestion is not allowed to be loaded, except upon showing that it can be delivered to and taken care of by the consignee at destination. During the autumn months of 1918, when traffic was at its heaviest, there was practically a complete absence of transportation stringency, which in the immediate preceding years had amounted almost to transportation paralysis. This condition was due largely to the "permit system." One of the essential reforms therefore is the adoption of some system to control traffic in the common interest.

As far as railroad tracks are concerned, the mileage of road tracks (as distinguished from terminal tracks) appears to be sufficient to take care, generally speaking, of a much larger tonnage than can be handled through the terminals. At times, however, particular railroads may become embarrassed by a surplus of traffic, even though it may be possible to care for the traffic at the terminal. Under unified control, in such conditions, the surplus traffic can be diverted to some other railroad reaching the same destination. Under private control this has not been possible. The company which was able to obtain the routing of the traffic has, generally speaking, not been willing, even though unable to handle the traffic successfully, to let it go to a rival railroad. The public ought to be provided with some system whereby unused railroad capacity may be used in the common interest in times of stress.

One of the most important classes of traffic is the export traffic and this ought to be greater than ever in the future. The transfer of such traffic at the seaport from the railroad car to the ship involves great possibilities for congestion and delay. Under the old form of private management a particular railroad company naturally wishes the traffic to go to its own port, and, even though that port may be momentarily seriously congested, is unwilling to turn that traffic to a rival line whose port may be free from congestion. Undoubtedly, an opportunity exists under unified control, even in peace time, to apportion the traffic among the ports and co-ordinate rail transportation with ocean transportation in such a way as greatly to relieve the strain which at times arises from the inability of the particular railroad company to consider the interests of ports other than its own and to co-ordinate effectively with the ocean transportation. Whatever the solution of the railroad question a way ought to be found to control this matter in the public interest in times of emergency.

Motive Power and Cars

A further transportation factor of great importance is having adequate locomotives in good repair. In the past each railroad company has had its own locomotives and, generally speaking, has used them exclusively upon its own rails. If some of them were temporarily idle there was not generally any way of allowing them to be used temporarily by other railroads which were short of locomotives. In cases where there was no surplus of locomotives anywhere and where additional locomotives were far more needed, in the public interest, in some sections than in others, there was under private management no way under peace conditions of taking locomotives from the line where the public interest needed them least and putting them into service upon the line where the public interest needed them most. There was no way in which locomotives could be mobilized so that they can be used where they will do the public the most good. This, of course, has been accomplished under unified control and will be to an increasing extent.

The availabilty of locomotives depends upon their being in good repair and the ability to repair them depends upon the shop capacity. Under private control each railroad company has had its own shops. If those shops are taxed to their capacity, it is not, generally speaking, convenient to turn additional locomotives needing repair over to the shops of other railroad companies in order to receive the repairs. The result is that shops of some railroads may be partly or largely idle and shops on other railroads may be wholly unequal to the tasks confronting them. Yet, private management has never been able to work out any comprehensive and effective way for "matching up" the demand and supply of locomotive shop capacity. This important matter has been handled with great success under unified control and can be developed so as to be handled more systematically and successfully as time goes on.

Competition

Under private management there has also been an unnecessary use of locomotive power through duplication of train service for purely competitive reasons, whereas under unified control trains can be consolidated so as to release for useful service many locomotives which before had been used merely in transportation rivalries and without carrying loads to their full capacity. When each railroad company is intent upon the traffic which it can obtain for its own line, it is inevitable that the most carefully drawn rules will not be fully carried out and that there will be a temptation, frequently irresistible, for a railroad company to retain cars for its own purposes, when the public interest requires that those cars should be devoted to some other purpose. It is also true that the handling of empty cars, so as to get them in the quickest time to the place where they are most needed, cannot be handled as well under private control, because the transportation of the empty car gives the transporting railroad no revenue and hence it is not disposed to encourage any such transportation, except to the extent that it has had the benefit of the car when loaded and producing revenue. And yet, in many instances, in order to reach the place where it is most needed, the car ought to be hauled by a line which has enjoyed no revenue from the car when it last moved under load. The results of unified management show important advantages resulting from unified control of the car supply. Any permanent solution of the railroad question ought to give the public the advantage in times of stress of the mobilization of locomotives, and locomotive

repair shops, and of the handling of all equipment in the public interest including the emergency handling of empty equipment.

Rates

In the matter of rates, an immense advantage resulting from unified control is that rates can be made only so high as may be necessary to protect the situation as a whole, through paying the total expenses and producing only a sufficient resulting operating income to represent a fair compensation for the property employed. But under separate management, there is the greatest diversity in the prosperity of the railroad companies. Some will prosper on very low rates and some will fail on very high rates. The result is either that rates must be maintained on an average basis which, while producing high profits for some railroads, will still leave other railroads in bankruptcy, or must be made sufficiently high to leave a margin of profit to the less prosperous, with consequently excessive profits to the most prosperous. The former course will result in the less prosperous roads being unable to perform their public service successfully. The latter course will result in the public being burdened with unnecessarily high rates. Under unified control rates which are sufficiently high on an average, to protect the general situation, will insure an adequate service on all roads and will, at the same time, protect the public against rates being made any higher than is necessary to meet the real necessities of the situation. I do not believe there can be any successful solution of the railroad problem which leaves in existence the great disparity in the results of the same rates to different railroad companies, because this will always cause question as to the propriety of any scale of rates and will keep the rate question in constant turmoil.

Result

I believe that even under the handicaps of war conditions a sufficient showing has been made to indicate that all the reforms I have mentioned are desirable as permanent peace measures. Yet it is clear that the general public has not had an opportunity to appreciate this and to weigh the real value of what has been accomplished. There has not yet been an opportunity to give the public knowledge of the facts. In view of the far-reaching importance of any solution of the railroad question which may be adopted, the public is entitled to have, before the present federal control shall be terminated, a reasonably fair test under peace conditions of the advantages to be derived from these reforms.

When Congress comes to take the responsibility of making a final decision as to which is the best permanent solution of the railroad problem, one of the most important considerations to which it must give attention is the question as to which solution will involve the least financial burden for the future upon the American public. This being true it seems to me of the highest importance that Congress should have an opportunity to form an accurate idea as to the cost of unified control of railroad operations under peace conditions. In order to have an accurate idea on this subject Congress ought to have before it at least the operations of the year 1919 under federal control. Of course these figures cannot be ready until the spring of 1920. If Congress undertakes to make its permanent solution of this great problem prior to that time it will do so without any adequate comparison between the cost of railroad operation under diversified private control as in the past, and the cost of railroad operation under unified control during peace time. It is true that the figures for the year 1918 will be available in about two months, but these figures will represent the operations under war conditions when the railroad management was subjected to many difficulties which will not exist under peace conditions, and when a great deal of traffic had to be handled regardless of cost in order to meet the insistent emergencies of war. It also happens that the year 1918 includes the operations of the most severe and costly winter that has ever been experienced in the life of the railroad business in this country, and the cost of clearing up the most serious congestion of traffic in the history of the railroads—a congestion existing at the time federal control was assumed. Therefore, unless a final solution of this problem is deferred until a reliable view of the economies which actually arise out of unified operation can be obtained, the result will be the adoption of a permanent solution in ignorance of one of the most important factors to be considered.

Shipping and the Railroads

The glorious victory for democracy in which America has played such a noble and conspicuous part has given her a commanding position in world affairs. Our own material development makes it more than ever necessary that we shall have access upon just and fair terms to the markets of the world for the disposition of our surplus products. We cannot meet this situation unless we are prepared to go forward immediately. Opportunity does not wait for the laggard, whether that laggard be a nation or an individual. America must go forward immediately and organize her resources effectively for the purpose if she is to enjoy her share of the fruits of the keen and friendly rivalries in commerce in which she must engage with other nations.

Under the provisions of the United States shipping act, the great merchant marine we are constructing is to be under government control for a period of five years from the conclusion of the European war. If our splendid merchant fleet, built with the money of the people of the United States at a cost of more than one billion dollars, is to be used successfully in their interest, it must be operated in effective coordination with the great railroad systems of the United States. They must work together harmoniously and reciprocally. During this great period of world development involving the vital welfare of the American people, it seems to me peculiarly wise that the period of federal control of railroad transportation shall be made concurrent with that of government ship control. Then we shall have a great transportation system on land and sea furnishing the reliable, effective service which will protect the interests of the American people and carry them forward upon a career of prosperity and success unequalled in any previous period in their history.

Conclusion

This is why I have urged that federal control be extended until January 1, 1924. It will be impossible to view the results of even one year of federal control under peace conditions until the spring of 1920, and it will then be too late for Congress to legislate before the end of the 21 months' period. Even if it were possible to accomplish legislation in the next 12 months it would be done without any opportunity whatever to form a reasonable idea as to the advantages of unity in the matters I have mentioned, under peace conditions.

Moreover, the operations under peace conditions with a tenure so short as the 21 months' period cannot possibly constitute a fair test. With such a rapidly approaching termination and with every officer and employee naturally speculating on his relations to the new management, whatever it may be, it will be impossible to secure the best results from the railroad organization and the nearer the termination approaches the more difficult will be the situation.

Indeed the difficulties with operation during the 21 months' period will be so serious that I do not see how the government can be fairly asked to encounter them. It will be asked to continue an operation deprived of all the elements which would help in making the operation a success, and I do not see how it can be seriously urged as the proper

course by any one except those who are anxious at all events to see the railroads restored to the control of numerous different companies just as in the past. It seems to me that any one who wishes a fair and dispassionate study made as to what is the best ultimate solution and as to the extent to which the reforms I have mentioned are in the interest of the American public, and as to the way in which those reforms can best be accomplished, if in the interest of the American public, must be anxious to have a reasonable period of federal control after the war under conditions calculated to make for tranquillity and single-mindedness upon the part of the federal railroad organization. I do not mean that this would be desired in order to accomplish government ownership, but it seems to me it would be desired in order to test the utility of various reforms in the direction of unification which can be accomplished without government ownership, but which cannot be accomplished as I view the situation through an unrestricted return to the old conditions of management through from 75 to 100 different important railroad companies, and several hundred smaller railroad companies.

The 21 months' period will be entirely too short to accomplish any effective results with respect to improvements, and especially the terminal improvements which are peculiarly needed. Indeed with such an early termination of federal control there will be almost a complete stoppage of improvement work except what is obviously needed for the most urgent necessities. The result will be that terminal reforms, which are badly needed in the public interest, and which already have been delayed many years, will be subjected to further indefinite delay. It will also be true that needed railroad construction and extensions will be practically at a standstill.

In the nature of things the concurrence of the railroad corporations cannot be expected in matters of improvements and extensions during the 21 months' period except as to things of the most urgent and obvious necessity and where there is no possibility of conflict with the selfish interest of the particular corporation. This is not surmise because the evidences of it are already appearing—notably in the case of locomotives where budgets were submitted by the corporations calling for their purchase and where even now many of the corporations are challenging the purchase of locomotives made for their account and within the limits of their requests. It is natural that each company will prefer to hold all other matters in abeyance in the hope that it can make its own plans in its own way at the end of federal control. This condition will not exist, however, if a five-year extension shall be granted. During the early part of that extension comprehensive improvements can be carried forward in the public interest and the railroad companies will appreciate the impracticability of holding everything in abeyance for so long a period as five years. Of course as the five-year period nears its termination there would be a disposition on the part of the corporations to postpone matters which had not theretofore been entered upon, but by the time this condition would arise it is reasonable to expect that Congress would have been able to make a permanent solution of the whole problem in the light of an adequate experience with the present opportunities for unified control.

With the five-year extension, it will be practicable for Congress, say within two years from now, to enter upon a permanent solution of this question after Congress and the country shall have had before it the result of a complete year's experience of federal control under peace conditions, as well as a year's experience under war conditions. Congress, with that additional experience, will be able far better than it is at present to estimate at their real value the reforms which I have submitted to you as being fundamental and Congress can then determine whether those reforms are so important as to make it desirable to adopt some other method of railroad ownership and control than that of such a great number of different private companies as has been the case in the past.

Valuation

It must be remembered also that Congress has thought it important to provide for a valuation of railroad property and this valuation has been in progress for several years at large cost. I assume that it will be completed in the next two or three years. There is widespread conviction that no permanent solution whatever of the railroad problem can be made which does not put at rest the present insistent claims as to railroad overcapitalization. The question therefore arises whether Congress can satisfactorily deal with this matter in advance of the completion of the valuation which it has already prescribed, and whether Congress will wish to attempt a final solution of it before it can have the benefit of the valuation for which it has already appropriated such large amounts and to which it has attached so much importance. It is not possible, as I view the complexities of the problem, to effect any marked change in the form of railroad control that is not based upon a completed valuation of their properties.

Copyright by Committee on Public Information

Constructing New Warehouses in France

Executives Plan for the Future of Railways

Government Regulation of Privately Operated Roads With Responsibility and Authority Vested in Federal Agencies

THE FOLLOWING PRINCIPLES, which should be incorporated in a plan providing for government regulation of railroads engaged in interstate commerce, were tentatively agreed to at conferences of the standing committee of Association of Railway Executives, at the Bellevue-Stratford Hotel, Philadelphia, December 11-15, 1918, and were presented to the Senate committee at Washington on Thursday of this week.

The fundamental and essential purpose to be accomplished is to furnish the public with safe, efficient and adequate transportation at the lowest cost consistent with such service, and with due regard to the just interests of the owners and employees, and also adequate to the nation's needs even in times of great national emergency or peril.

It should be realized that the commerce to be provided for, whether in peace or war, is not essentially, or in large part, local, but is in its most important and controlling aspect interstate and continental. Manifestly any system which is adopted should be adequate to deal with and supply local needs as well as to meet the larger purposes referred to, and consequently it is necessary to consider whether instrumentalities of commerce whose principal functions and importance are interstate and continental should in matters affecting their capacity to serve on equal terms the entire public, be subjected to many local authorities or to an authority representing all localities.

The interests of the whole people demand, that, in any plan or policy which is adopted, provision shall be made:

(a) For adequate service and facilities to meet not only the present requirements, but the growing and expanding needs of our population and of our domestic and foreign commerce.

(b) For new and additional construction when justified by public convenience and necessity and for the elimination and prevention of waste in unnecessary and injudicious construction.

(c) For the proper co-ordination of the carriers' lines, facilities and organizations and for the consolidation thereof under proper limitations whenever necessary in the public interest to meet and provide for the reasonable demands of our domestic and foreign commerce.

(d) For the prompt and orderly co-ordination of the lines, facilities and organizations of all carriers into a unified and continental system whenever required in the public interest, because of extraordinary national emergency or peril.

(e) For a rate structure which will provide sufficient revenues and create sufficient credit for these purposes.

Principles Recommended

To this end, the following principles should be adopted:

1. Private ownership, management and operation of the American railways should, as a matter of national policy, be continued.

2. The power of regulation of the instrumentalities of interstate commerce, as to all things substantially affecting them, including all rates, state and interstate, should be exclusively in the hands of the national government; but these national functions should be administered through governmental machinery or agencies responsive to the needs of and convenient to the people of the several states to the extent and the manner hereinafter suggested. State commissions should not be interfered with by the federal act except so far as necessary to carry out the purposes herein mentioned.

3. The Interstate Commerce Commission, which has heretofore been the sole federal agency provided by law to deal with such matters should be relieved from its executive and administrative duties, except as to federal valuation and as to accounting, and should act as a quasi-judicial body clothed with authority to pass upon all questions concerning the reasonableness and adequacy of rates and concerning discriminations coming before it on complaint of any party interested, or referred to it as hereinafter provided.

A Secretary of Transportation

4. A department of transportation should be created, the head of which should be known as the secretary of transportation. He should be a member of the President's cabinet and should be vested with the following powers and duties:

(a) To carefully observe the transportation needs and transportation facilities of the country, and, by suggestion and co-operation with the carriers, and, by recommendations from time to time to the Interstate Commerce Commission in respect to the necessity for rates and revenues adequate to provide and maintain the proper service and to create the credit required to meet the needs of the public for facilities, while at the same time protecting the just interests of employees, of owners, of shippers, and of the traveling public, to endeavor to insure the provision of adequate transportation facilities for the real transportation needs of each situation. He should be charged with the responsibility of recommending from time to time to the President such measures and policies as in his opinion would promote the interests of the public and the adequacy of the transportation service;

(b) If he find that a carrier is at any time so congested or otherwise unable to properly handle its traffic, he should have power to distribute such traffic over other lines and routes on such terms as between the several carriers as he may find to be just and reasonable under the circumstances, subject in respect to such terms to appeal to the Interstate Commerce Commission;

(c) If he find it to be practicable and in the public interest, he should have power, in the event of the failure of the interested carriers to agree, to require the use of the terminals of any carrier by another or other carriers on such terms as he may fix as reasonable and just, subject to the right of appeal of any interested carrier to the Interstate Commerce Commission;

(d) In cases of serious national emergency, he should have power to direct that, during the continuance of such emergency, the carriers should co-ordinate their facilities and operations and operate their properties as a unified national system on such terms as he may find to be just and reasonable in the public interest. Proper provision should be made for just compensation to any carrier injured thereby.

(e) If he find it necessary in order to provide adequately for the movement of traffic, he should have power to require any carrier to distribute its cars to other lines on such terms as he may deem just, subject as to such terms to an appeal to the Interstate Commerce Commission.

(f) He should have power to require any carrier to distribute its cars among its patrons in accordance with their needs and the public interest in the same manner and to the same extent as the Interstate Commerce Commission is now by law authorized to do.

5. No new or branch lines of railroad or large and ex-

pensive terminals should be constructed unless a certificate of public convenience and necessity is first obtained from the secretary of transportation.

6. The executive and administrative functions of the Interstate Commerce Commission, except as to accounting and as to federal valuation of railroad properties, should be transferred to the secretary of transportation.

7. The carriers should have the power to initiate rates, schedules of which should be filed with the Interstate Commerce Commission, with the secretary of transportation and with the state commissions of the states in which the rates are applicable and through which the carrier operates; and, if not suspended as hereinafter provided, such rates should become effective 30 days after the same have been so filed, unless a shorter period is in special cases authorized by the secretary of transportation.

It should be made the duty of the secretary of transportation promptly to consider the new rates so brought to his attention, and he shall either:

(a) Approve the same, giving his reasons for such approval, or,

(b) Permit the rates to go into effect without his specific approval or disapproval, or

(c) Disapprove the same, giving his reasons therefor.

In case he disapproves any rate or fails specifically to approve or disapprove it, he may suspend it for a period not exceeding 60 days and refer the same to the Interstate Commerce Commission for consideration and determination.

8. The statute itself should provide the rule of rate-making, and should require that rates be not only what has been called reasonable, but adequate and sufficient to enable the carriers to provide safe, adequate and sufficient service, to protect existing investment and to attract the new capital necessary in the public interest, and, to that end, the statute should, among other things, specifically provide that the level of rates must properly reflect the cost of wages and all other expenses incident to the furnishing of transportation.

9. Rates, whether approved or disapproved by the secretary of transportation, may by complaint be brought before the Interstate Commerce Commission for consideration, which should have power to pass upon the reasonableness and adequacy thereof, subject to the statutory rule in regard to rate-making, and, in any proceedings before it in respect to rates, the commission should give due consideration to any recommendations in respect thereto made to it by the secretary of transportation. Rates approved by the secretary of transportation should be presumed to be reasonable and proper until found otherwise by the commission.

10. In any proceedings before it in respect to rates the Interstate Commerce Commission should have the power to prescribe minimum as well as maximum rates and to determine the relation of rates and differentials whenever necessary or appropriate to establish or maintain a rate structure or a relation or differential found by it to be just and proper.

11. The statute should provide that existing rates, put into effect by the director general of railroads should be continued in effect until changed by the Interstate Commerce Commission as provided by law, or as provided in paragraph 7 hereof.

12. Any carrier should be given the right to complain of rates of another carrier in the same manner and to the same extent as a shipper.

13. The Interstate Commerce Commission, in order that matters within its jurisdiction may be dealt with more promptly and satisfactorily and with a fuller appreciation of all the circumstances and local conditions, should be directed to divide the United States into such number of regions as it may deem wise, and certify the number of regions and their boundaries to the President, who should appoint for each region a regional commission, which should be a board of primary jurisdiction, consisting of one member for each of the states embraced therein. The regional commissions should have authority to hear and determine all complaints in respect of matters within the jurisdiction of the Interstate Commerce Commission arising in their respective regions and to make reports thereon to the Interstate Commerce Commission, such reports during a fixed period to be subject to exceptions by any of the parties, as in the case of reports by masters in chancery. If no exception is filed within the time limit and it is not otherwise ordered by the Interstate Commerce Commission, the orders and findings of the regional commissions should automatically go into effect. If there are exceptions, or the Interstate Commerce Commission considers the issues involved of sufficient importance to so order, a hearing should be had before it on such exceptions, or on the matters made subject to reconsideration by order of the commission, and the order of the commission should have the same effect as now provided by law in respect to its orders.

14. Express rates should be dealt with in the same manner as freight rates. Contracts between express companies and railroad companies for division of express earnings should not become effective until approved by the secretary of transportation.

15. Section ten of the Clayton act should be so modified as not unduly to hamper the proper transaction of business.

16. Existing laws should be so far modified as to authorize upon approval by the secretary of transportation as being in the public interest:

(a) Acquisition by a carrier engaged in interstate commerce of the properties, stocks or securities of another or other carriers; or consolidations and mergers of such carriers;

(b) Agreements between carriers engaged in interstate commerce in respect to rates and practices;

(c) The pooling of cars and other transportation facilities;

(d) The division of earnings in connection with the elimination of unnecessary train service.

All such agreements and arrangements should be filed with the Interstate Commerce Commission and with the commissions of the several states whose traffic is affected as well as with the secretary of transportation and be open to public inspection.

17. Continuity and regularity of transportation are absolutely essential to the public. Both the capital invested and the labor employed in transportation are therefore engaged in a business vitally affecting the public interest, and by engaging therein assume the implied obligation not unreasonably to impair or interrupt the movement of trains. Questions of wages and working conditions affecting individual railroads should be settled, if possible, by officers of the railroads and representatives of the employees. A board should be constituted, under the secretary of transportation, on which the employees, the employers, and the public, should have equal representation, with the duty and authority to investigate and report to the secretary of transportation on the merits of any controversy, which the parties are unable to adjust, arising in the railroad or other transportation service, either in regard to wages or in regard to conditions of service; and, pending such investigation and report and for a reasonable time thereafter, there should be no lockout by the carriers and no concerted action on the part of the employees which would have the effect of interfering with or interrupting the orderly movement of the United States mail or interstate or foreign commerce. The scale of wages and the expense incident to any change in the conditions of service recommended in the report of such board, if put into effect, should be accepted and recognized in the making of rates, as a legitimate expense of transportation.

18. Provision should be made for the funding by the United States of indebtedness of carriers to it growing out of federal control.

19. There should be in the federal government the exclusive governmental power to supervise and authorize the issue of securities by railroad carriers engaged in interstate or foreign commerce or by holding companies controlling any such carrier.

20. A system of federal incorporation should be adopted into which should be brought all railroad corporations engaged in interstate or foreign commerce. Such system should be compulsory and not elective. It should preserve to corporations reincorporating under it, not only all of their contract rights and other assets of all sorts, but also (except as to any feature contrary to an Act of Congress) their existing charter powers, and they should also possess the general powers conferred upon all corporations organized under the federal Act. The system of incorporation should provide a means of consolidation and merger for existing corporations engaged in interstate or foreign commerce, with the necessary power of condemnation; provided the secretary of transportation finds that such consolidation or merger is not contrary to the public interest and approves the same.

The committee of the Association of Executives consists of: Thomas DeWitt Cuyler, chairman; S. T. Bledsoe, general counsel, Atchison, Topeka & Santa Fe; W. R. Cole, president, Nashville, Chattanooga & St. Louis; A. J. Earling, chairman, Chicago, Milwaukee & St. Paul; Howard Elliott, president, Northern Pacific; S. M. Felton, president, Chicago Great Western; A. H. Harris, vice-president, New York Central; Charles Hayden, president, Chicago, Rock Island & Pacific; E. M. Hyzer, vice-president, Chicago & North Western; L. E. Johnson, president, Norfolk & Western; Howard G. Kelley, president, Detroit, Grand Haven & Milwaukee, Grand Trunk Western, and Atlantic & St. Lawrence; Julius Kruttschnitt, president, Southern Pacific; E. E. Loomis, president, Lehigh Valley; L. F. Loree, president, Delaware & Hudson; Wm. Church Osborn, president, Texas & Pacific; Chas. A. Peabody, president, Illinois Central; Samuel Rea, president, Pennsylvania; Bird M. Robinson, president, American Short Line Railroad Association; W. L. Ross, receiver, Toledo, St. Louis & Western; Henry Ruhlender, president and chairman, St. Louis-San Francisco; Frank Trumbull, president, Chesapeake & Ohio; F. D. Underwood, president, Erie; H. Walters, chairman, Atlantic Coast Line; and Daniel Willard, president, Baltimore & Ohio.

I. C. C. Opposes Government Railroad Operation

For Return of Properties to Private Management After Reasonable Period of Readjustment or Preparation

EXPRESSING THE CONVICTION that with the adoption of appropriate provisions and safeguards for regulation under private ownership it would not be wise or best at this time to assume government ownership or operation of the railways of the country, the Interstate Commerce Commission, in a statement presented before the Senate Committee on Interstate Commerce on January 7 by Commissioner E. E. Clark, went on record as favoring a return of the railroads to private management after a reasonable period of readjustment or preparation and after reasonable notice of the date. The commission also outlined its recommendations for legislation to provide a broadened, extended and amplified governmental regulation, without which, it declared, no plan of private ownership should be considered. Commissioner Clark also read a dissenting statement by Commissioner Woolley favoring the extension of the period of federal control as recommended by Director General McAdoo.

Commissioner Clark's statement, which was adopted by the Commission in conference on December 21, follows:

Broad Policy Needed

It is unnecessary to dilate upon the vital importance of transportation to the country, its commerce and industries, or to picture the immensities of the transportation business and of the plant which it employs. The questions now presented should be considered in a spirit as big and broad as are the interests to be affected thereby. The legislation to be enacted in answer to those questions should be based upon a policy as broad as the territory to which it applies and the law in which our governmental policy is announced should be as big as the business to which it relates. Governmental regulation of corporations engaged as common carriers should reach the corporate activities wherever those activities may lawfully go in serving the public as interstate carriers. The responsibilities of operation under governmental regulation must be accepted by the carrier corporations and the responsibilities that go with such regulation should be accepted in full by the government.

In our last annual report we said, with regard to the future of the railroads, that whatever line of policy is determined upon the fundamental aim or purpose should be to secure transportation systems that would be adequate for the nation's needs even in time of national stress or peril and that will furnish to the public safe, adequate and efficient transportation at the lowest cost consistent with that service, to that end there should be provision for the following:

Fundamentals of a Proper Transportation Policy

1. The prompt merger, without friction, of all the carriers' lines, facilities and organizations into a continental and unified system in time of stress or emergency. The thought underlying this is that, in the light of recent experiences, the President should be by law authorized in time of national stress or peril to assume possession, control and operation of the transportation systems of the country to such extent as may be necessary to serve and protect the general public safety and welfare. Such action was found to be essential about one year ago. It is hoped that such an emergency will not again arise, but it seems wise to provide for it if it should come, and that all cavil and controversy as to the lawful power to act should be, by statute, set at rest. The Franco-Prussian war led the British government to provide by law in 1871 a plan for taking over for governmental needs the railroads of Great Britain. It did not need or use that power until in connection with the World War which began in 1914. The further thought is that there may possibly arise a national stress or emergency, not the direct outgrowth of a war in which we are engaged, which would warrant and justify the exercise of such a power. If the power is provided by law it does not necessarily follow that it will be used, and it must be presumed that no President would exercise it except upon appropriate or proper occasion.

2. Merger within proper limits of the carriers' lines and

facilities in such part and to such extent as may be necessary in the general public interest to meet the reasonable demands of our domestic and foreign commerce. The thought underlying this is that it might become necessary or be found desirable in the general public interest to permit, encourage or require carriers within limits as to extent, territory and time to merge their lines and facilities or the operation thereof. The exercise of such a power would necessarily be an administrative function.

3. Limitation of railway construction to the necessities and convenience of the government and of the public and assuring construction to the point of these limitations. The thought underlying the first part of this suggestion is that in some instances, for speculative or competitive reasons, railroads have been built in excess of the reasonable demand and in excess of the necessities of the territory built into, as well as of its reasonably prospective traffic. A railroad once built ordinarily must be operated and permitted to earn a living. The public should not be burdened with the maintenance of two or more railroads when one would substantially answer every legitimate purpose. In this connection it would be desirable that in the exercise of its powers the Congress should say that no railroad shall be constructed or extended that is to engage or is engaged in interstate commerce unless, in addition to required authority from the state, a certificate of public convenience and necessity is secured from federal authority. The thought underlying the second part of this suggestion is that a railroad having been permitted, by public franchise and the powers that go with it, to build into a given territory, it should be required to properly serve and develop that territory. And in developed territory it is important to provide for the extension of short branch or spur lines or spur tracks to communities and industries that should be served and that can furnish sufficient traffic to justify such extension.

In some of the states the state officers are authorized to require such extensions, but in such cases they are necessarily primarily concerned with, if not confined to, a consideration of state traffic. Some of the states have not vested such authority in any state official. Ordinarily such extensions would be desired for the purpose of facilitating or making possible the transportation of interstate traffic. The desirability of uniformity is obvious. The exercise of federal authority should not depend upon whether or not the state has acted and should not be different as to the state that has legislated on the subject and the state that has not so legislated. It therefore seems desirable that the Congress should exercise its jurisdiction in this regard in a plenary way and that where such extensions are desired in connection with the movement of presently existing or prospective interstate traffic and the carrier is unwilling to construct them, it may, upon proper showing and after full hearing, be required to do so by the federal tribunal.

4. Development and encouragement of inland waterways and co-ordination of rail and water transportation systems. This means the co-ordination of rail and water transportation systems by establishment and maintenance of through routes between rail and water carriers and reasonable joint rates applicable thereto, divided upon reasonable bases, whenever and wherever such through routes will facilitate or economize in the movement of traffic and serve a real public interest. The law now prohibits a rail carrier from increasing a rate which has been reduced to meet water competition unless some justification for the increase can be shown other than the elimination of water competition. Where there is legitimate water competition and legitimate reason or occasion therefor, neither the railroads nor the water carriers should be permitted to reduce their competitive rates below a reasonable compensatory level for the purpose of stifling the competition. Rates that are on a level lower than is reasonably compensatory are not a public benefit. If they cover all the traffic the carrier's bankruptcy and destruction are inevitable. If it has other traffic it is certain that it will endeavor from that other traffic to recoup its losses under the non-compensatory rates. A well-directed and proper co-ordination of rail and water transportation systems will of itself be an encouragement to the development of inland waterways.

We suggested five plans which we thought doubtless would be proposed for adoption as our future governmental policy and said that additional plans and modifications or combinations of those mentioned might be listed.

Government Ownership of Operation Not Wise

Much can be said on either side as to the relative advantages and disadvantages which accrue from or necessarily attend either government ownership and operation or private ownership and operation. It seems obvious that no plan of private ownership should be considered unless it be under a broadened, extended and amplified governmental regulation. Considering and weighing as best we can all of the arguments for and against the different plans, we are led to the conviction that with the adoption of appropriate provisions and safeguards for regulation under private ownership it would not be wise or best at the present time to assume government ownership or operation of the railways of the country.

The law provides that federal control shall not continue beyond 21 months after the promulgation of a treaty of peace. The wisdom of thus providing a reasonable period after the passing of the imperative necessities of our government in actual prosecution of warfare, within which to readjust or make preparations for readjustment of traffic conditions and to round out or prepare financial arrangements, is hardly open to question. Carriers' properties formerly composing a system are now under the jurisdiction of two or more regional directors or federal managers, the current of traffic has in some instances been materially changed, and financial complications exist. Comparatively few contracts for compensation have been perfected between the transportation companies and the government. Our expression in favor of return to private ownership and operation is therefore not to be understood as favoring a return of the properties in a precipitate way. A reasonable period of readjustment or preparation should be afforded and reasonable notice should be given that upon a given date the properties will be restored to their owners.

The experiences under federal control have still further demonstrated, as had previously been shown in proceedings before and reports of the commission, that there is necessarily a direct relationship between the wages paid to railroad employees and the rates which the carrier companies must and may charge. The largest item of expense in operation of a railroad is that of wages. Manifestly, from a social standpoint as well as from the standpoint of the nature of the employment, and because of the great importance to the public as well as to the railroads of loyal and devoted service on part of the employees, unaffected by excitement of wage controversies, and of uninterrupted operation of the carrier properties, the railroad employees should be adequately compensated. For the same reasons every reasonable provision should be made to insure proper compensation for the employees, a minimum of friction over questions of compensation or hours or conditions of service, and avoidance of interruption to the operation of the properties.

Suggestions for Legislation

In the event, therefore, of a continuance of the policy of private ownership and operation under governmental regulation, we think that the following matters, mentioned in our annual report, require legislative consideration, in connection

with which the following suggestions should be carefully weighed:

1. Revision of limitations upon united or co-operative activities among common carriers by rail and by water. Under the policy heretofore followed by our government all efforts to restrict the full play of competition between carriers have been frowned upon or prohibited. Obviously competition between carriers that is wasteful or unnecessarily expensive lays an added burden upon the rate-payers. Elimination of wasteful or unduly expensive competition in rates or service is desirable and under the exercise by the government of its power to regulate the service and the rates which the carriers may charge and to require an abatement of all unjustly discriminatory, unduly prejudicial or unduly preferential charges, regulations or practices, carriers might well be permitted and encouraged to co-ordinate their activities and merge or consolidate their lines to such an extent as is, after thorough investigation and full hearing, sanctioned by the regulating body. The rates should not be higher than the shipper may reasonably be required to pay and should not be lower than the carrier may reasonably be required to accept. The regulating tribunal should have authority to prescribe not only the maximum which the carrier may charge, but also the minimum. This power would restrain an individual carrier from furthering its own ends at the expense of others by unwise and unwarranted upsetting of reasonable rate adjustments. If the rates and charges are by regulation confined within the reasonably narrow limits between the maximum and minimum reasonable charges, no public interest can be injured by the carriers all maintaining charges within those limits. If, without unduly lowering or restricting the standard of service, economy in maintenance and operation can be secured by co-operative agreement or consolidation, under governmental supervision and approval, of two or more lines, the public is not injured, while the sum available for improvements and betterments of the carrier properties is augmented.

2. Emancipation of railway operation from financial dictation. It would serve no good purpose to recite the many instances in comparatively recent years in which, through financial deals for which it is difficult to find any word of excuse, railroad properties have been bankrupted or saddled with almost overwhelming burdens of indebtedness, which have not increased the amount or value of property devoted to the public service, have not improved the service rendered, and have on the whole had the effect of increasing the charges for service. There should be some way by which under the law these things could be prevented, or, if not prevented, by which the perpetrators could be required to adequately answer for their acts. A transportation line operating by virtue of a public grant, and upon which the industrial, commercial and social life of communities depends, should not be a football of speculation. The records in investigations made and reported upon by us in cases of financial wrecking of railroad companies suggest the advisability of extending the terms of the Clayton act with reference to common or interlocking directors so as to render them applicable to common carrier corporations, even when they are not competitors. Consideration of these questions and a corrective for the abuses referred to lead to:

3. Regulation of issues of securities. The advisability, desirability and propriety of public or governmental regulation of the issuance of securities by public service corporations is conceded generally by thinking and fair-minded men. A proper federal regulation of the issuance of securities by the corporations engaged in interstate transportation and supervision of the application of the proceeds therefrom would go far toward preventing the abuses referred to above. The commission is on record for several years past as favoring such supervision and regulation of the issuance of securities.

4. Establishment of a relationship between federal and state authority which will eliminate the twilight zone of jurisdiction and under which a harmonious rate structure and adequate service can be secured, state and interstate. If the government is to assume, as it should, all of the responsibilities that properly go with an amplified and broadened exercise of its regulatory powers and the regulation is to be adequate, the regulating body must have authority and powers which it has not heretofore had over questions of service and physical operation of the carriers. In this way only can an adequate service be secured and kept in harmony with a reasonable level of rates. The conflict of jurisdiction as between the federal government and the states could probably be resolved through harmonious co-operation if the federal tribunal could be authorized to co-operate with state authorities by utilizing their services in appropriate instances and to an appropriate extent.

5. Restrictions governing the treatment of competitive as compared with non-competitive traffic. This subject is necessarily linked with what has been said relative to revision of limitations upon united or co-operative activities among common carriers by rail or by water. If those limitations are appropriately broad there would seem to be no occasion for different charges, terminal or otherwise, as between so-called competitive and so-called non-competitive traffic, or for many of the old annoying and expensive restrictions surrounding milling and other services in transit.

6. The most efficient utilization of equipment and provision for distributing the burden of furnishing equipment on an equitable basis among the respective carriers. Under broad revision of limitations upon co-operative activities among carriers they could form equipment pools which would add efficiency in the standardization of construction and in the utilization of equipment. Under the extension of authority to the regulating tribunal to require adequate service, carriers that are disposed to shirk their duty could be required to provide themselves with the equipment necessary to the furnishing of an adequate service.

7. A more liberal use of terminal facilities in the interest of proper movement of commerce. Here again a broad revision of the limitations upon co-operative activities among the carriers would naturally bring a more liberal use of the existing terminal facilities and would undoubtedly bring about agreements between competing carriers under which existing terminal facilities would be opened to traffic which (is now and) heretofore has been excluded. If the regulating body is empowered to require adequate service, it could require the enlargement of terminals, if that action were necessary in the public interest, and could require that terminals be opened to traffic in so far as is reasonably and properly in the interests of the commerce of the locality. Where this power was exercised the regulating tribunal would, as a matter of course, determine the reasonable compensation to be paid to the owning carrier for use of its property by the carriers or traffic so using that property.

8. Limitations within which common carrier facilities and services may be furnished by shippers or receivers of freight. The carrier may provide facilities by ownership, lease or hire. If they are leased or hired on reasonable terms from those who are not shippers or receivers of freight, no public interest is affected by the arrangement. If the regulating body has power to require an adequate service it could determine what constitute proper facilities and the extent to which and the instances in which they shall be provided by the carrier. If the regulating body has power to require the most efficient utilization of equipment, it can determine the instances in which and the extent to which special equipment or facilities may properly be demanded of the carriers.

Transportation service and adequate service are demanded by the welfare, the industry, the commerce and the social life

of the whole people. Securing that class of service is more important than is the question of whether it shall be furnished at a slightly higher or a slightly lower charge. An adequate service cannot be provided except from adequate revenues and as a result of adequate expenditures for maintenance, improvement and expansion. Private capital cannot be induced to invest in railroad securities unless it can be reasonably assured of the security of the investment and an appropriate return thereon. It necessarily follows that the patrons of the transportation companies must pay rates that will yield revenues sufficient to justify rendering the quantity and character of service demanded. The charges should not be higher than those that will yield proper compensation for the service performed and appropriate return upon the property devoted to the public use. If through enlightened, broadened and wise regulation that proper balance between revenues, on the one hand, and returns to capital and expenditures in operation, maintenance and improvement, on the other hand, can be established, the public will be well served at reasonable charges, the employees of the transportation companies will be adequately compensated for their work, and the shippers and receivers will secure, at reasonable rates, an adequate service. It would seem to follow necessarily that the securities of the corporations would become stabilized and that when it becomes necessary to issue additional securities under governmental supervision, capital seeking investment would readily respond to the call.

Commissioner Woolley's Dissenting Statement

Commissioner Woolley said:

If the railroads under federal control are to be turned back to their owners, then I subscribe to the memorandum submitted by my colleagues, except wherein it says, "considering and weighing as best we can all of the arguments for and against different plans, we are led to the conviction that with the adoption of appropriate provisions and safeguards for regulation under private ownership, it would not be wise or best at this time to assume government ownership or operation of the railways of the country," with the following two additional recommendations:

(1) With power to supervise the issuance of railroad securities, to prescribe service regulations and to fix the minimum as well as the maximum transportation rates vested in the Interstate Commerce Commission, the commission should also be made the tribunal to which carriers and employees, organized and unorganized, would appeal for adjustment of any differences arising between them; also, it should have authority to investigate from time to time the living conditions of railroad workers, to insure regularity of employment and to fix a minimum wage. Congress should require the carriers, possibly by amending section 10 of the Clayton anti-trust act, to make all purchases of materials, supplies, etc., through competitive bids in the open market, and their correspondence and other documents bearing on transactions of this nature should be subject to inspection by representatives of the Interstate Commerce Commission. This body would then be in a position to act on full information in prescribing reasonable rates, in seeing that there is a fair return on capital invested and in adjusting labor disputes; labor itself would know that its rights were being protected even in cases where its demands might not be approved by the commission. If some such plan is not adopted by Congress, clerks and unorganized labor generally, having no effective means of protecting their rights, will inevitably be the first to suffer upon the least shrinkage of income after return of the roads to private control.

(2) The carriers should be required to set aside fixed portions of their gross annual incomes for depreciation, the percentage to be determined in each case by the Interstate Commerce Commission. This would insure uniformity of method in caring for the properties, and publication of the percentage prescribed in each instance would safeguard the interests of the purchasers of their securities. Chairman Daniels and I are practically in accord on this point.

I believe the period of federal control should be extended, as recommended by Director General McAdoo, for a number of reasons, some of which are:

(1) With the government borrowing more than $20,000,000,000 in a period of two years and with railroad securities, largely speaking, depressed or in a measure discredited, I fail to see where the money is coming from to insure to the United States an efficient and articulate growing transportation system, vitally necessary in the great period of reconstruction just beginning, if the roads are to be returned to their owners for operation. In spite of the clamor from several quarters against further federal control, the fact remains that following the statement of the director general that the roads may be given back at an early date if the period of federal control is not lengthened there came shrinkages in market quotations of many railroad stocks, in some instances as much as 20 per cent.

(2) Some of our great railroad systems have credit sufficient to raise in the open market the new money which will necessarily be required from time to time for the development of their properties. For instance, the Pennsylvania, the Burlington or the Santa Fe may find it possible to float bonds or notes, but I think it will not be seriously contended that a majority of the railroads now under federal control could do likewise. Especially would they find it difficult if so-called "banker management" should be definitely removed, as is in effect recommended by a majority of the commission. It is hardly possible that our great financial houses would under the circumstances be willing or able longer to market large issues of railroad stocks in order to secure additional funds.

(3) A real danger spot is the so-called "weak sisters." That many not already bankrupt might be thrown into the hands of receivers almost immediately upon return to private control is hardly debatable; that most of them are indispensable links in our national transportation system and should be improved and developed is generally admitted. The government is the only possible source of financial help for this class of roads.

(4) Our public utilities with approximately $260,000,000 of bonds maturing in the next six months have been under a heavy strain for some time. If the financial waters should be seriously disturbed through the forcing of the weak members of the present federal control group into bankruptcy, many of these utilities would find it difficult to weather the storm.

(5) Probably for the first time in our history, all classes of railroad labor have received under federal control at least reasonable compensation. The rights of union and non-union workers have been alike considered, with the result that ample living wages have been granted. These workers demand that the recent increases be not withdrawn or reduced. Certain adjustments with a view to establishing proper relationships of wages for given classes of employment may be necessary, but, generally speaking, I think the workers in so demanding have a strong case.

(6) Though the present freight rate structure is undoubtedly the best that could have been devised under competitive conditions and the act to regulate commerce, long and ably administered by the Interstate Commerce Commission, I am firmly of the opinion that there is urgent need of a new system of rate making, and I see no hope of its being achieved except under federal control or with the government owning the railroads. The so-called rate blankets, grouping of communities, basing points, etc., outgrowth of competitive conditions, in my humble opinion make for favoritism and are highly uneconomic. In a word, the freight rate has been frequently used as a sort of protective tariff by means of which favored cities or communities have prospered at the

expense of others. The freight rate should be made, under proper classification, on the basis of a terminal charge plus straight mileage. We are coming to it some day, because it is the only just and logical plan, and I think the sooner it is perfected and adopted the better.

(7) I am aware that our year's trial of federal control has not been an unqualified success; but to my mind the good accomplished far outweighs the shortcomings and is a promise of better things for the future.

(8) The proposal to return the railroads to private control, though widely discussed by railroad men, financiers and shippers, has not yet, so far as I am aware, been productive of any concrete plan which would carry the undertaking safely over the breakers obviously ahead.

Should Government Operation Affect Signaling?

Some of the Opportunities for Improvements Which Might Be Accomplished by Unified Control

By A. G. Shaver
Consulting Signal and Electrical Engineer, Chicago

"IS THE UNITED STATES RAILROAD ADMINISTRATION going to do anything which will affect railway signaling, and, if so, what can and what should it do?" This is a question which is frequently asked. With regard to the first part of this question, it is well known that the general increase in wages ordered by the director general of railroads applies to some members of the signal department as well as to other railway employees, but there is not yet in evidence any other act of the Railroad Administration which appears to change in particular the status of railway signaling from what it was before the government took over the railroads. It will be the purpose of this article to discuss some of the things which can and should be done.

Automatic Train Control

No one thing in the interest of safe train operation has received more attention in this country than has the problem of automatic train control. The Interstate Commerce Commission has made it the subject of investigation, and for years has persistently made recommendations concerning it in annual reports to Congress. Inventors and promoters of such devices, and there have been plenty of them, have struggled along with little encouragement from the railroads, spending their time and money and developing very creditable apparatus in some cases. They have hoped either that the federal government would make the use of automatic train control compulsory or that the railroads would eventually, of their own initiative, take up the proposition and make installations, much as has been done in the case of automatic block signaling. But such a millennium has not yet dawned for the inventor and the promoter, and the newspapers are still able from time to time to come out with big headlines telling of bad train accidents which possibly could have been avoided had there been in use at the time some adequate system of automatic train control.

With the railroads under federal supervision, the time has arrived when this problem should be worked out. It can be solved under the U. S. Railroad Administration to better advantage than it can by an individual or by any one railroad, or by even several railroads working together. Now that the war is over and resources, talent and all sorts of railroad operating conditions are available, this matter should not be further delayed.

Signal Standards

Splendid work has been done by the Railway Signal Association in the preparation of specifications and standards pertaining to railroad signaling, and these should be made effective on all railroads in so far as possible. These specifications and standards have been prepared usually with the view that the greatest possible latitude would be allowed inventors and manufacturers so that competition and progress should not be stifled, and further that no section of the country should be handicapped by having to use methods and devices not suitable to local conditions and requirements of railway operation. Excepting to compel their use, it is doubtful if the Railroad Administration should take any action on specifications and standards for appliances other than through the Railway Signal Association, working with much the same objects in view as heretofore.

It has always been customary for each railroad to arrange its own practices, rules, standards, etc. While practices and rules have usually been the same in a general way for all railroads, yet in some cases they have been quite different in important essentials. There seems no good reason why signal indications and rules should not be uniformly the same for all railroads, due allowance being made for special situations and conditions.

Signal Department Organizations

Signal department organizations are much alike in that the head of the department usually has the title of signal engineer, the chief division officer is the signal supervisor and the man in charge of the maintenance work on a specified section is the signal maintainer. In other respects signal organizations may, and in some cases do, vary considerably. Under federal control it should be possible to rearrange and change the present organizations, as necessary, that greater efficiency and economy may be the result.

Railway signal engineers as a rule are competent. Possibly they are competent, in the positions which they hold, to a greater degree than is the case with any other class of railway officers. Some have been unable to manage their departments to advantage because of the lack of authority and the various restrictions surrounding their office. As a rule the signal engineer reports to the chief engineer. This seems to be a matter of custom. There is no real logical reason why this should be, since civil engineering and signal engineering are two distinct sciences, bearing little relation to each other, and it is also true that signaling on the railroads is largely an operating matter. The chief engineer is generally not skilled in either railway operation or railway signaling, and the duties pertaining strictly to his profession are numerous and exacting. Because of these facts, it is believed the railroads would get uniformly better results from their signal departments if the signal engineer reported directly to the operating head of the railroad.

The signal department of each well established railroad ordinarily comprises an engineering branch, a construction branch and a maintenance and operating branch. The en-

gineering for railway signaling could well become largely a regional function through which proper co-ordination and co-operation would result in greater efficiency and economy. Many railroads have heretofore, and some still do, let out their signal construction to contractors. On the larger railroads there is no good reason why such work should not all be done with the railroad's own forces. The contractor must make a profit and he must figure liberally for it. On those roads which have been adequately organized to do their own signal construction, experience has shown that the contractor's profit, and more in some cases, has been saved.

Signal construction is in itself something of a science, requiring time and expense to organize forces to function properly. Since some railroads do not have sufficient signals to keep construction gangs at work all the time, signal construction might also be subject to regional and even inter-regional supervision. Signaling for the various roads might be so planned that gangs could work in the south during the winter and in the north during the summer.

Two general practices exist regarding signal maintenance. On some railroads, excepting in the case of large interlockings and complicated signal situations, one man, known as a maintainer, is assigned to a definite section to do patrol duty and whatever work is necessary for the operation and upkeep of the signal system. On other railroads there is a maintainer with one or more helpers, all covering a prescribed territory but each having his particular work to do. The merits of these two practices should be determined and that one put into general use which is found to be the most satisfactory. The latter mentioned practice is the most expensive, but it affords a means for supplying men for maintenance positions through educating helpers for maintainer's duties.

There are interlockings where no conflicting train movements occur for periods of several hours each day. In these cases the routes required might be set up, the tower closed and the towerman excused from duty for such interval; or during such times the towerman might be detailed to maintainer's work. Considerable savings can be made in cases of this kind and in situations of a similar character.

Signal Accounting

High cost of labor and labor scarcity make it more necessary than ever heretofore that the exact cost of things be known. Nothing has handicapped signal engineers more than the inadequacy of signal accounting. Unless accurate cost data is available it is often impossible to tell if work should be done or, if something is being done, whether it is performed economically. Much good service from improved practices and devices is being lost because of ignorance of the cost of practices and devices already in use. Signal lighting is a good illustration. There is no doubt but that if the actual cost of the present oil lighting system for signals were known, in many situations it would be supplanted immediately by one of the better and more up-to-date systems available for this purpose.

While the Interstate Commerce Commission has dictated a system of cost keeping which the railroads must follow, yet as a basis for making comparisons and giving a true idea of signal costs it is insufficient in scope and detail. At the present time a statement by one railroad that its cost for a piece of signaling is a certain figure, does not mean much to another railroad unless details are given as to just what the figure includes. A basis for signal costkeeping should be devised and a system of accounting required such that all necessary information will be available for comparisons, the proper determination as to practices, the use of new devices, etc.

Combinations of Duties and Departments

A western railroad has a crossing alarm in a certain city, but there is no other signaling in the vicinity. The signal maintainer is located over 100 miles away. Twice each month he has to inspect and repair the alarm. Would it not be better to let the telegraph lineman do this work, as he has his headquarters in the same city where the crossing alarm is located? There are many cases of similar character on various railroads where combinations of duties can be made, resulting in better service and a saving in time and money.

At the present time the use of electricity will be found on cars and engines, shop machinery, in lighting yards and stations, in throwing switches, in the telegraph and the telephone, railroad signals, etc., and this use is being rapidly extended. Supervision over all this will be found in several different departments, each working to a large extent independently of the other. The creation of a department of electricity on the railroads, to have general supervision over all matters pertaining to the use of electricity, is a real necessity. It would harmonize methods, make standards, combine duties of employees where advisable, reduce stocks, etc., all of which if properly done would mean as good or better service at less expense.

A Propaganda of Education

A program of education applied to signals may be considered as in two parts: the education of employees regarding signals that they may know how to interpret and act under them (operating department employees); and the education of employees to become skilled in the science of signaling (signal department employees). Some railroads have a very good system of educating enginemen and trainmen regarding signals and especially the more important, unusual and special cases, but many railroads depend almost entirely upon the book of rules and a periodical or occasional examination conducted by an already overworked trainmaster, the result being that few operating department employees know more than that *red* indicates stop, *yellow* caution and *green* clear. For safe, efficient train operation employees must have a better knowledge than these bare fundamentals of signaling, and they can get and retain all they need to know only from being taught by skilled instructors aided by models, pictures and other means now recognized as suitable for such purposes.

In addition to the insufficiency of skilled signal labor, the railroads are now confronted with the necessity for paying considerably higher wages. It is therefore, essential that this labor be as capable and as effective as possible. The important employee of the signal department is the signal maintainer. While the railroads have ordinarily been careful in the selection of these men, yet in the past low wages and scarcity of experienced labor have left them without much choice. As a result, if an investigation should be made at this time, it would probably be disclosed that many men in the service have little knowledge of signaling other than being able to mend broken bond wires and clean battery and trim lamps. Means should be provided to teach these men and to educate a reserve force for vacancies and new positions. Where the safe movement of trains depends upon signals, it is highly important to have signalmen who thoroughly understand their duties.

Analysis and Investigation

Railroads have never been especially strong in analyzing their problems. That is, they do not always go into them with the same thoroughness and application of needed remedies that most manufacturers and large private enterprises do. For example, few railroads, before installing additional tracks, have carefully analyzed their existing plant to determine if the rearrangement of existing facilities and the installation of signals would meet the requirements of the situation, and make the construction of additional tracks unnecessary. There is without doubt second main track in service at the present time, which never would have been installed had a careful study of conditions been made.

The Work of the Division of Operation*

Congestion Eliminated, Facilities Pooled, Car Shortage Overcome, and Standards Adopted for Equipment

By William G. McAdoo
Director General of Railroads.

THE DIVISION OF OPERATION, formerly known as the Division of Transportation, was established on February 9, 1918, and Carl R. Gray, an operating official of wide experience, was appointed director. This division, with the thorough and sympathetic co-operation of the various regional directors, federal managers, and operating officials and employees, has proved most effective in meeting the enormous problems facing the railroads, and their work has assisted enormously in keeping the transportation system of the country in a healthy condition.

In order to understand the operating problems presenting themselves with the inauguration of federal control, it will be necessary to recount some of the potent causes producing the serious conditions of congestion which resulted in the railroads being taken over by the federal government, and I will enumerate the steps which were taken to overcome them.

Difficulties

1. Accumulation of export freight at North Atlantic terminals, which was reflecting itself immediately in an inability to successfully handle domestic freight. There was no co-ordination of rail and overseas transportation. The lack of co-ordination between rail lines and the overseas carriers was overcome by the creation of the Exports Control Committee referred to herein, and export freight was brought forward from the interior only when ocean shipping was available.

2. Shortage of motive power. As a result, engines had been kept in service under pressure of necessity which should have been thoroughly overhauled, and one of the immediate effects of the severe winter weather was to render engines of this class entirely unavailable.

3. Heavy building operations by different branches of the government, the contractors for which ordered materials forwarded far in advance of their ability to receive and unload. There was at one time over 5,000 carloads of piling alone for the Hog Island shipyard in excess of its ability to accept.

4. On account of the feverish demand for materials of all kinds manufacturers purchased raw materials from unusual markets in excessive quantities, with the frequent result that arrivals were badly bunched and unloading was slow and difficult.

5. The necessity for giving priority to shipments of government freight and the lack of a central control, even in a single department, to decide upon the degrees of importance in priority. This had resulted in many instances through the insistence of some energetic officer handling a single class of material in a preference movement being given to freight of minor relative importance.

6. The withdrawal for overseas service of Atlantic coastwise vessels, both of railroad and independent ownership, resulting in a call upon the rail carriers for the transportation of an enormous amount of tonnage which ordinarily moved by water.

Certain general conclusions can safely be drawn from a year's experience of operation of the railroads as one unit. Given average weather conditions, and with the exception of the Pittsburgh gateway, which merits especial treatment, there is no question of the ability of the railroads to transport to destination all of the freight offering, either domestic or for overseas, provided there are facilities for prompt disposition and unloading at destination.

The controlling factor throughout our experience has not been in the road transportation, but at the ultimate destination, and any serious conditions of congestion obtaining on any of the trunk lines en route has been the reflex of the conditions at the terminals themselves. Practically all transportation in the United States has been based primarily upon the desires and necessities of the consignor rather than upon the abilities of the consignee to receive and digest the freight.

The winter conditions, beginning about December 1, 1917, and which were at their worst when federal control began, continued until well into March, and were the most severe known to railroad history, and continued for a longer period of time.

The congested area was, generally speaking, in the territory north of the Ohio and Potomac rivers and east of the Mississippi river and Chicago. Due to the causes above enumerated, as well as to the fact that the movement itself was of unusual volume, there was in this territory, when the railroads came under federal control, 62,247 carloads of freight which was being delayed short of its ultimate destination, in addition to which there were held by the lines at and west of St. Louis 31,421 carloads; at and west of Chicago, 24,836 carloads; at and south of the Ohio river gateways, 14,061 carloads; and at and south of the Potomac river gateways, 15,545 carloads. This congestion was practically cleared up May 1, 1918.

Bituminous Coal

The most serious situation presented itself in the case of bituminous coal. This condition was the result of three factors:

1. An actual shortage of cars at the mines on account of the number delayed under load in the congested area and the limitations upon transportation due to the extraordinarily blizzard weather;

2. The lack of systematic distribution, which the Fuel Administration was arranging to provide; and

3. The dislocation of the New England supply, which was the result of the withdrawal of coastwise steamships, and which presented, on January 1, 1918, the most serious single situation.

The bituminous coal production for the preceding year had been the largest in the history of that industry. The severe weather conditions prevailing in January, 1918, resulted in a decreased production, almost entirely due to car supply, of 65,294 car loads. Immediate and drastic steps were taken to remedy this situation, and, notwithstanding the fact that the weather continued to be unduly severe throughout February and part of March, the railroads got on their feet, and in February produced an increase of 24,366 cars of coal over the preceding February, and for the suc-

*Abstract of the chapter on operating results from the director general's forthcoming report to President Wilson.

ceeding months increases over the respective corresponding months of the preceding year were as follows:

	Cars
March	38,202
April	64,824
May	87,036
June	92,734
July	150,288
August	139,686
September	128,942
October	89,882

or a net increase for the 10 months of 741,666 cars, or approximately 37,083,300 tons.

New England's necessities have been fully met and the largest tonnage of coal ever known—28,153,317 tons—has been moved to the Lake Erie ports and transported to the northwest. A very considerable proportion of the credit for the increase in the coal production must be attributed to the operation of the zone plan, to which special reference is made hereafter.

Food

Another serious condition arising early in the year was the threatened shortage of foodstuffs for the allies. A program had been arranged by the Food Administration, by which approximately 1,160,000 tons of food of all kinds per month was to be forwarded to the allies. Early in February the matter was brought earnestly to the attention of the Railroad Administration by the Council of National Defense, the Food Administration, and the representatives of the allies. Approximately 750,000 tons only had been forwarded in January, and at the then rate of progress only 500,000 tons would have been forwarded in February. The situation was represented to be of the utmost importance and was taken hold of with vigor. Empty box cars were moved in preference from all portions of the East and South into the western grain states, with the result that by March 15 the vessel capacity of the allies had been satisfied and there was available at North Atlantic ports an excess on wheels of 6,318 cars of foodstuffs, exclusive of grain on cars and in elevators. This situation has not at any time since presented any embarrassments and has been fully and satisfactorily met.

Furnace Situation

The severe weather conditions and the resulting car shortages had produced a very serious situation with respect to the blast furnaces in the eastern territory. On January 12, 1918, out of a total of 169 furnaces 17 per cent were out of blast. This situation was accentuated during the month of January, until on February 1, 22 per cent were out of blast. This was given special consideration and a steady improvement was made until June 1. Since then the situation has been practically normal.

Lease of Locomotives

At the beginning of federal control the Baldwin Locomotive Works and the American Locomotive Co.'s plants were occupied in the construction of locomotives for the Russian government, which, on account of the conditions prevailing in that country, it was impossible to deliver. Two hundred of these locomotives were partially constructed and practically all of the material was fabricated. These 200 locomotives were taken over by the War Department and leased to the Railroad Administration and are in service. They were constructed to a 5-ft. gage, as contrasted with our 4-ft., 8½-in. regulation. This difference was taken up by the use of wide tires, and these engines have been giving good service and came at a time when the need of additional motive power was very great.

A temporary lease of 135 light Consolidation locomotives was made with the War Department. These locomotives were for use in France and were returned and shipped overseas during the months of August and September.

Just prior to the inauguration of federal control the Railroads' War Board had transferred to the eastern territory 92 engines from western and 15 engines from southern railroads. In addition, as they came from the manufacturers, 130 new locomotives, which had been constructed for southern, southwestern, northwestern, and central western railroads, were placed in service on eastern lines.

In addition to this transfer of power into the eastern region, there was a relocation of power inside of that region from one road to another, amounting to 215 locomotives.

Transportation

While it is not possible in a report of reasonable length to epitomize in detail the action taken under unified control to simplify and economize methods of transportation, they can be briefly stated as coming under the following general heads:

Unification of Terminals.—This has been general throughout the country at both large and small stations, but has been of the greatest importance at the larger terminals, where terminal managers have been appointed with jurisdiction over the facilities of all lines. Where unnecessary mileage was not involved, a consistent effort has been made to route freight so as to arrive at the specific terminal where it was to be disposed of, and, so far as practicable, interchange switching in terminals has been eliminated.

In Chicago terminals it has been the practice under private control to reconsign practically all coal after arrival. By co-operation with producers, 66 per cent of the coal arriving at Chicago, in August, was consigned direct to consumer from the mines, and crosshauling coal between terminal lines was greatly reduced through the same co-operation, whereby coal was used wherever possible upon the rails of the individual road over which it arrived.

Single track separately owned lines between Pueblo and Denver, 118.5 miles, and between Wells, Nev., and Winnemucca, Nev., 185 miles, have been utilized as double track.

The reports of the regional directors, which follow, will give in detail the information as to unification of terminals and facilities. However, the following are typical examples of what has been done:

The Southern Pacific, Atchison, Topeka & Santa Fe, and Western Pacific each maintained passenger ferry service between Oakland and San Francisco. Santa Fe and Western Pacific passenger trains have been brought into the Oakland Mole of the Southern Pacific. The latter railroad's ferry facilities were ample for the three lines, so it was possible to dispense with the ferry service of both the Santa Fe and the Western Pacific at an approximate saving of $315,000 per annum.

All railroad marine facilities in New York harbor were consolidated under a marine manager, and have been used in common with very satisfactory results.

One hundred and seventeen coal-carrying barges and 18 tugs belonging to the Philadelphia & Reading, Lehigh Valley, New York, Ontario & Western, and Erie were pooled under a single management.

All passenger trains of the Baltimore & Ohio and through passenger trains of the Lehigh Valley were brought into the Pennsylvania railroad terminal in New York City.

Short Hauling of Freight.—Instructions were issued immediately upon the inauguration of federal control providing for the movement of freight by the shortest practicable route. This practice has been consistently followed, except where better grade conditions and less congestion were favorable factors on a somewhat longer line. Agencies were created whereby failure to observe the correct routing was detected and remedied.

It is impossible, of course, to estimate the total saving accomplished in this direction. An instance, however, is available in the case of the Northwestern region, where the correction of improper routing, within a period of five months,

on 34,941 car loads, resulted in a saving of 4,054,455 car miles.

Solid Trains.—The practice was inaugurated of creating solid trains for definite destinations by building up at Chicago, Minneapolis and St. Paul, St. Louis and Missouri river crossings, which resulted in a natural decrease in intermediate terminal switching and the expedition of essential government freight. This has been especially valuable in the transportation of export food of all kinds, meats, grain and grain products, and of munitions and steel for shipbuilding plants.

Elimination of Nonessential Passenger Trains.—The question of duplicate and unnecessary passenger train service has been given the most careful consideration, with the result that a number of trains have been discontinued which fell in one of these classes. Between the important terminals the remaining trains have been so spaced as actually to afford greater variety and extent of service than was possible heretofore where, through competitive conditions, the trains on the several lines practically duplicated each other. The saving per year in passenger train miles by regions is as follows:

Eastern	16,253,914
Allegheny	4,870,000
Southern	1,702,480
Northwestern	23,280,400
Central western	16,772,524
Southwestern	4,411,244

Pittsburgh Gateway.—The extraordinary development of industrial activities in and around Pittsburgh, and the enormous tonnage which is handled locally, makes it very difficult to use this gateway for trunk-line traffic, and this is especially true when the through and local business increases coincidentally, as is usually the case. Physical conditions, which embrace a narrow gorge and a large city, render the solution of this problem exceedingly difficult of local treatment.

It is my conviction that as soon as practicable the trunk-line railroads through Pittsburgh should be relieved by the construction of an entirely new line for freight purposes, connecting them east and west of Pittsburgh, but entirely avoiding the industrial area.

Coal Zone Plan.—The experience of the railroads under private ownership, especially with a demand for coal far in excess of the tonnage produced, was that shippers reached out into markets far beyond the territory in which their particular coal had normally been sold in previous years. The result was a very considerable waste of transportation, in that a much greater car mileage, reasonably estimated as running into millions of car miles, was necessary to supply the country with its normal coal requirements than would have been the case had shippers chosen to content themselves with normal markets.

To meet this situation the Railroad and Fuel Administrations jointly established what has come to be known as the bituminous coal zone plan of distribution. Under this plan the various bituminous coal mining districts east of the Rocky Mountains were separated and each assigned a definite territory wherein it could market its coal. It was further provided that coal from any district could be shipped to destinations beyond the zone allotted to that district only upon permit of the Fuel Administration, which was recognized by the Railroad Administration as constituting exemption from the railroad embargoes which were laid down to give force and effect to the zone plan. The coal-zoning plan, however, did not merely save car miles, and thus permit the production and transportation of several millions more tons of coal than would otherwise have been possible; it furnished, in addition, the means of utilizing coal produced in the plains states, which would not have otherwise been produced.

Marine Department

The following matters have been handled:

1. General supervision of all water transportation under federal control on the Atlantic and Pacific Oceans, Gulf of Mexico, their tributaries, and also the Great Lakes.

The following special subjects have also been handled:

1. Protection of coal supply for the New England states.
2. Protection of pulp-wood supply to insure ample supply of news print paper.
3. Cape Cod canal.
4. Foreign coal supply for New England railroads under federal control.
5. Movement of potatoes from Maine.

This department has had direct supervision over the marine facilities of the Division of Operations.

The original withdrawals of ships from the coastwise service threw upon the railroads a wholly unusual and unexpected tonnage which, unfortunately, moved into and through the most congested areas. It was not possible to utilize privately owned steamship lines for this purpose, because, naturally, they were disposed to seek that class of tonnage which paid the highest rates, and which they could concentrate for a single port. Under federal control the tonnage which would most relieve the rail lines has been turned to the Coastwise Steamship Section.

In the operation of the Coastwise Steamship Section tonnage was diverted from the Southwest as well as from the entire South, and the supply of cotton for New England mills and of raw materials for eastern war industries was successfully accomplished through South Atlantic ports, at a time when rail gateways were partially closed. To relieve the northern trunk lines, seven cargo vessels were operated between Lake Michigan ports and Buffalo, handling a total for the season of navigation of 599,811 tons. The cessation of war activities has lightened the burden upon coastwise railroads to such an extent that the business can now easily be handled by the railroad-owned steamships and the rail lines.

All coastwise lines were operated from April 13, 1918, to September 1, 1918, by the Coastwise Steamship Advisory Committee. On September 1 all coastwise lines under federal control were combined under H. B. Walker, federal manager, with headquarters at New York, making possible the transfer of vessels from one service to another, regardless of ownership, enabling the greatly reduced fleet to effect prompt movement of all business. The operation of vessels was seriously interfered with by German submarine operations on the Atlantic coast, necessitating running without lights and making long detours to avoid submarines and mines.

Movement of Potatoes from Maine

The potato shipping interests in Maine being apprehensive of shortage of transportation for the Maine potato crop during the coming winter, the Division of Operation was requested to organize equipment supply, train, and if necessary, vessel movement. Complete provision has been made, and there is no probability of weather or any other condition preventing prompt and efficient movement of this important food and seed crop. Estimate of total crop is 25,000 carloads.

Mechanical Department

On February 9, 1918, Frank McManamy, chief inspector of locomotives for the Interstate Commerce Commission, was appointed manager of the Locomotive Repair Section, and authorized to co-ordinate the repair of locomotives. On July 1, 1918, he was promoted to assistant director in charge of the mechanical department and his jurisdiction extended to include car repairs, supervision of mechanical standards, and of tests of new devices. Later he was given jurisdiction over the enforcement of federal laws for the promotion of safety for employees.

Methods Adopted for Improving Equipment.—To utilize any of the large manufacturing plants for repairs would very seriously limit their effectiveness in the production of new locomotives, and on account of the competition of high wages paid by the shipbuilding plants and war industries generally there was a considerable shortage of skilled mechanical workers in railroad shops.

Immediate relief could only be secured by working a greater number of hours. On a large number of railroads there were in existence contracts with the mechanical crafts which limited the number of hours per day. The railway employees' department of the American Federation of Labor, which represented the mechanical crafts on such railroads, very patriotically met this situation and voluntarily agreed that they would, during the period of the war, waive their privileges in this respect. As a result of this, railroad shops on many of the important lines were placed on a basis of 70 hours per week, and the remainder on 60 hours per week, which was approximately an average increase of 20 per cent in shop hours. In June all shops were placed on the 60-hour-per-week basis, which continued until the signing of the armistice, when arrangements were made for readjusting the hours, which were reduced on November 25 to nine, and December 9 to eight hours per day.

Co-ordination of Locomotive Repairs.—A check of the repair shops indicated that their combined capacity was ample to take care of all of the locomotives if they were properly distributed. Plans were immediately perfected to send locomotives to the nearest available repair shop, regardless of ownership, and to distribute the work so that each shop could be worked to capacity. This arrangement in many instances actually reduced the distance which defective locomotives were ordinarily sent for repairs, and also reduced the time such locomotives were held out of service. Under this plan, since January 1, we have transferred 2,065 locomotives to the shops of other railroads under federal control, where they had been given heavy classified repairs; otherwise, these locomotives could not have been kept in service.

Comparison of Motive-Power Conditions.—Accurate comparison of motive-power conditions with one year ago is difficult, because of the varying methods of rendering reports prevalent on the different lines, the repairs on some roads being divided into three classes, while on the others they were divided into more than 150 classes. This has been standardized, and the reports of repairs and of the condition of locomotives are now rendered by all roads on the same basis. The improvement in the condition of locomotives is perhaps best indicated by the fact that, notwithstanding the tonnage handled during the year has been the heaviest ever known, there are now stored in good condition and ready for winter service, 1,189 locomotives, while one year ago there was not a single serviceable locomotive in storage. This improved condition is due to the co-ordination of shopwork.

Condition of Freight Cars.—The general condition of freight cars has also shown a substantial improvement since the organization of the mechanical department. The percentage of bad-order cars to revenue cars on line has decreased from 7 per cent in July to 5.3 per cent, which is a decrease of approximately 43,000 in the number of bad-order cars.

Standardization of Equipment.—The standardization of locomotives and cars is an ideal which has long been striven for by the various organizations of railroad officials, and much has been done by them to bring about this result. Complete accomplishment has never heretofore been possible because of an absence of authority to enforce standards which might be agreed upon. This has now been accomplished by the preparation and adoption of standard designs for different types of locomotives which are suitable for all classes of service and by standardization of freight and passenger equipment. This will increase production by eliminating delay waiting for designs and patterns and will facilitate repairs and reduce the number of repair parts necessary to be carried in stock.

It is interesting to note that one of the large locomotive companies, working solely upon engines of individual design, turned out in a five-week period ending August 17, only 104 completed engines, while the same shops for the five weeks ending October 2 produced 163 engines of standardized design. It would not be safe to assume so great an increase in capacity as a regular thing, but that the standardization does very greatly increase the capacity of locomotive shops is unquestioned.

General Condition of Equipment and Terminal Facilities

One of the prime causes for the necessity of government control of railroads and one of the most serious conditions the Railroad Administration was called on to correct when assuming control, was the general bad condition of locomotives and cars.

It was impossible at the time the railroads were taken over to say to what extent the condition of locomotives and cars were responsible for the situation which existed, and as the Railroad Administration had at that time no mechanical department organized to check up shop practices and handling of equipment at terminals and advise relative to outlining plans for improvement, the Interstate Commerce Commission was asked to assist in obtaining accurate information relative to the general situation. The commission promptly placed at the disposal of the Railroad Administration the records and personnel of its Bureau of Locomotive Inspection and Bureau of Safety.

The records of these two bureaus contained much valuable data with respect to general conditions throughout the country and the inspection forces of the commission were assigned to various congested terminals, particularly throughout the East and Middle West, to investigate and make daily reports of the actual condition of locomotives and cars and train movements. These reports showed that in addition to the congestion caused by failure of shippers to unload cars promptly that a serious situation existed on account of the number of bad-order cars at various terminals and also on account of the general defective, run-down condition of motive power, which, together with overcrowded and inadequate shops and roundhouses, had resulted in trains being held at terminals on account of shortage of efficient motive power, and also seriously slowed up movement on the road, often to the extent of blocking several divisions.

The immediate remedy for these conditions was not so much the building of new locomotives and cars as the proper maintenance of locomotives and cars that were in service and more prompt movement of trains.

A survey of the situation indicated that shop facilities were sufficient if efficiently used; therefore, the task of nationalizing the railroad-shop facilities and assigning locomotives to shops where repairs could be made, regardless of ownership, was assigned to the chief inspector of the Bureau of Locomotive Inspection, who, in addition to his duties as chief inspector, was placed in charge of the mechanical department of the administration.

Prompt handling of locomotives was seriously hampered by the condition of roundhouses and the lack of facilities at many points to make running repairs to large modern locomotives. Roundhouses built 20 or more years ago for locomotives in service at that time were still being used to house locomotives more than twice the size for which they were designed. Repairs had to be made either out of doors or in open roundhouses with the temperature below zero. Steam pipes, injectors, air pumps, and even cylinders froze and burst, and in many cases locomotives were actually frozen to the track in roundhouses and could not be moved.

In spite of these conditions, under the plan organized by the mechanical department of the Railroad Administration with the assistance of the railroad officials and the co-operation of the employees in working increased hours regardless of working conditions, the situation immediately began to improve and that improvement has continued up to the present time. It is true that there were difficulties encountered on account of failure to appreciate the need of co-operation between officers and employees. This resulted in 123 instances in labor disputes which threatened to, or did temporarily, tie up certain terminals.

All of these were successfully handled, and following such adjustments there was a noticeable increase in the production of the shops and engine houses where such disputes occurred.

Only two methods for improving the general condition of equipment existed; namely, to increase the shop facilities and forces or to use more efficiently the facilities and forces which were available. Increasing the facilities and forces under war conditions was clearly impossible; this left as the only practical means of improving equipment conditions the adoption of some plan whereby existing facilities and forces could be made to produce greater results.

The average increase in locomotive-shop hours for the entire country amounted to about 16 per cent, and the effect became immediately apparent by the increased number of locomotives repaired per week in comparison with the most accurate records available for the corresponding week of the preceding year.

This increase in shop hours applied to roads where locomotives were in good condition and shop facilities ample, as well as to roads which were not so favorably situated, which enabled a comprehensive program of nationalization of railroad shop facilities over the entire country to be carried out, and locomotives from roads where shop facilities were not sufficient and motive power in bad condition to be sent to shops on other lines for repairs. This distribution of locomotives was so arranged as to reduce, in many instances, distance to the repair shops; therefore, the cost of transporting locomotives to the shops was no greater and all shops under this plan were kept working to their maximum capacity with a full force.

The plan of considering the condition of equipment as a whole and taking steps to improve it by, first, uniformly increasing shop hours on all railroads in the country and utilizing to their full capacity the facilities of all shops which could only be done under federal control is really what improved the condition of the locomotives and cars and enabled trains to be promptly moved from terminals with reasonable assurance that the locomotives would make a successful trip. The result of the policy of nationalizing railroad shop facilities made it possible to repair at other line shops 2,065 locomotives for railroads which lacked sufficient shop space and shop organization, thus improving the general situation without detriment to the railroads that furnished this help.

Standardized Locomotives

In addition to the vigorous action which had been taken to improve the condition of existing equipment, the necessity of adding to the available stock was recognized and designs were worked out for standardized locomotives and orders placed for their construction.

The locomotives were built from standardized designs for various reasons, the principal of which are as follows:

First. To reduce to a minimum the time required to prepare drawings, patterns, and dies, and thus enable deliveries to begin quicker than where separate drawings and patterns would have been necessary for each lot of locomotives allocated to a particular road.

Second. To secure quantity deliveries.

This method of construction has resulted in delivery being made at a quantity rate which could not have been approached had the locomotives been ordered to individual designs. The increase in the rate at which standardized locomotives can be turned out is clearly shown by the following comparison of two of the principal shops of the American Locomotive Co. during a portion of July and August when the locomotives built were of individual design with a similar period in September and October when they were building standardized locomotives. During five weeks, beginning July 20, an average of 13⅕ locomotives per week were turned out at the Dunkirk plant, while during five weeks, beginning September 14, an average of 19⅕ locomotives per week were turned out at the same plant. For Schenectady, during the five-week period beginning July 20, an average of 8 locomotives per week were turned out, while for the corresponding period beginning September 14 an average of 13⅗ locomotives were turned out. It will be seen that the increased production due to the standardized locomotives was about 50 per cent.

Third. It has also provided a supply of equipment, the parts of which are largely interchangeable, which is available for use anywhere in the event of congestion. This removes the necessity of carrying a large stock of repair parts peculiar to the locomotive and avoids delay which results when repair parts must be ordered from some distant owning road.

Standardized Cars

The freight car situation was handled along the same lines as were the locomotives. In addition to the designs for freight cars, for which orders have been placed, designs have been prepared for all-steel box cars of 50 tons capacity, refrigerator cars of 30 tons capacity, general service gondola cars of 50 tons capacity, steel framed stock cars of 40 tons capacity, flat cars of 55 tons capacity, oil tank cars of 7,000 gal. capacity, oil tank cars of 8,000 gal. capacity, oil tank cars of 10,000 gal. capacity, acid tank cars of 7,000 gal. capacity, acid tank cars of 8,000 gal. capacity, and acid tank cars of 10,000 gal. capacity. While no cars have actually been built from these drawings, they are available at any time that the traffic needs show them to be desirable.

Complete plans and specifications of all steel baggage cars, in both of 60-foot and 70-foot lengths, have been prepared, and tentative plans prepared for 70-foot steel coaches, and for steel passenger and mail, passenger and baggage, passenger, baggage and mail cars.

Standard Reports

In the meantime other work was being vigorously pushed to improve conditions and to facilitate keeping of records. First, a system of weekly equipment-condition reports from each railroad was installed, so that the condition of power might be reported and the administration kept informed and locomotives needing repairs assigned to the nearest available shop.

Reclamation Work

To conserve material and avoid the possibility of usable material being sold as scrap, instructions were issued to the effect that proper facilities must be provided and every effort made to reclaim and make repairs to old material instead of using new, and under no circumstances was material to be scrapped until—

First. It was known positively that it could not be satisfactorily repaired, or

Second. That the cost of repairs would be prohibitive.

The total saving resulting from reclamation of scrap material can not be checked up at this time, but when this work is thoroughly developed and reclamation plants provided on all railroads it will amount in the aggregate to millions

of dollars annually in addition to relieving manufacturing establishments and permitting them to use their facilities for war material and with the signing of peace, material that will be needed in reconstruction work.

Standard Practices

Standard practices have been established and circulars of instruction issued for mechanical work covering the following matter, which will result in more efficient and economical operation of locomotives and cars: Repairs and betterments to freight cars, painting freight cars, installing field ranges in cars, locomotive maintenance, care of journal boxes, inspection of ash pans and spark arresters, lubrication of locomotives, repairs to refrigerator cars, and superheating of locomotives.

Rules have also been promulgated for the inspection and testing by the inspection forces of the railroad companies of all stationary boilers used, which will make it possible to save the insurance premiums now paid on such boilers.

Locomotives en route to or from other line shops and new locomotives being delivered by the builders were usually hauled dead in trains. Instructions were at once issued that wherever possible such locomotives should be moved under steam, hauling a train wherever practical. This order relieved the railroads from 500,000,000 ton-miles of transportation annually for material which not only should be self-propelling, but which should, in many instances, be hauling additional freight.

Consolidation of Mechanical Terminal Facilities

Under private operation, at many points complete organizations for the maintenance of a comparatively small number of locomotives or cars were maintained side by side, which resulted in a duplication of work, heating plants, and supervising forces. Wherever a saving could be made without adversely affecting efficiency, such useless facilities were eliminated. Such consolidations have been made at 417 points and the annual saving effected thereby amounts to $2,363,535.95. Additional consolidations are now under way.

In connection with this work extensive investigations were conducted covering shop and engine-house operation, resulting in changes and improvements which have materially increased the output. For example, at one large shop the output of locomotives receiving classified repairs increased over 50 per cent, and increases ranging from 10 to 25 per cent were secured in many shops. It was also possible by rearranging the method of handling work in engine houses to release hundreds of employees that were sorely needed in other departments, and the saving effected in engine-house operation by such reduction in force, while not obtainable for all railroads, on one railroad alone amounted to $1,061,332.68 per annum.

It was also possible by rearranging methods of handling locomotives at terminals to secure greater efficiency from such locomotives, and thus overcome what otherwise would have been a shortage in motive power.

The condition of motive power on all lines under federal control has shown a gradual improvement, and the locomotives in service are in much better condition than they were one year ago, and on some lines, that last spring required extensive assistance from other line shops, the condition of power has shown such a marked improvement that they are now doing all of their own repair work, and, in addition, are repairing locomotives for other lines.

The tabulations furnished by the railroads show an average increase of 20.93 per cent each week in the number of locomotives receiving classified repairs during the period of increased shop hours.

In addition to the improved condition of power in service there are now in white lead 1,021 locomotives in the various regions, divided as follows:

Region	Number
Allegheny	57
Central western	198
Eastern	480
Northwestern	147
Pocahontas	1
Southern	39
Southwestern	99
Total	1,021

These locomotives have received classified repairs and are being held in reserve for winter service. There are also being placed in storage for service during the winter months 150 new standardized locomotives which were recently received from the locomotive builders. With the surplus power in reserve and the new power to be received from the builders to be distributed where it is most needed, there is no doubt but that all lines under federal control will be able to pass through the winter with a sufficient number of locomotives in serviceable condition successfully to handle all business offered.

New Devices for Locomotives and Cars

On account of the vast number of new devices for use on locomotives and cars which were submitted, a comprehensive plan for handling this question was necessary. Detailed instructions were issued by circular establishing rules for the submission of such devices for the consideration of the Railroad Administration and a committee on appliances was created to conduct necessary investigations and to pass upon the value of all devices or appliances thus submitted. Up to date 692 such devices, which cover practically everything used in locomotive or car construction, have been submitted. One hundred and thirty-five of these have been examined, ten of which have been recommended for test under service conditions. These tests will proceed under the direction of the mechanical department, and a record will be kept of the results, so that the value of the devices in question may be correctly passed upon.

Enforcement of Laws for the Promotion of Safety

As provided in General Order 8, it was the purpose to require compliance with all federal laws for the promotion of safety, but while under federal control it would manifestly be no punishment to impose fines; therefore other means must be provided. By General Order 46 this work was placed under the direction of the assistant director of the Division of Operation, in charge of the mechanical department.

Since the issuing of General Order 46, 108 reports of violations of the federal laws for the promotion of safety, totaling 682 separate counts, have been received from the Interstate Commerce Commission and referred to the mechanical department for correction. Although this work has not been completely organized, the Bureau of Safety and the Bureau of Locomotive Inspection of the Interstate Commerce Commission have advised that substantial improvements in practices have been noted at points where such violations have been handled.

Education of Railroad Employees

It has long been recognized that the service rendered by railroad employees is capable of substantial improvement by proper training of employees along industrial lines, and many railroads have in existence plans for furnishing additional training for their employees.

The Railroad Administration is in sympathy with this work and plans are being considered for establishing a system of technical training for railroad employees in connection with the Board for Vocational Education. It is also believed that this work may be profitably extended to employees who have been injured in the service to an extent

that prevents them from following their usual vocation, but who with proper training may be fitted to fill other responsible positions.

Organization

The work of the mechanical department, Division of Operation, has been conducted with a total force of appproximately 60. Of these, 28 are considered as field men whose duties are to conduct investigations concerning shop practices and shop output and to furnish first-hand information relative to the efficiency of the work performed and the general condition of the equipment. They are also used to conduct investigations and handle disputes between shop men and railroad officials which have not reached the point where they should be referred to the Division of Labor.

The office force, in addition to handling ordinary correspondence, receives, checks and compares the reports showing the general condition of equipment, the assignment of locomotives to shops for repairs as well as the assignment of new locomotives received from the builders. It also includes the mechanical engineering staff, which checks up the designs for locomotives and cars, receives reports of failures of standardized locomotives, and corrects faulty construction. The mechanical engineering staff also acts as a clearing house for information concerning standard designs of locomotives and cars, distributes drawings and other data necessary to the proper standardization of equipment and keeps the practices up to the standard.

Department of Engineering and Maintenance

C. A. Morse, assistant director of operation, in charge of engineering and maintenance, was appointed September 1, 1918, and his organization is engaged in compiling information reflecting the physical condition of the railroads under federal control as of date December 31, 1917, and in preparing for the compilation of similar information as to conditions at the end of each year, and at the end of federal control.

This work is being handled through a committee composed of the assistant director of operation, as chairman, with the engineering assistant of each regional director, and an organization has been built up in each region with the engineering assistant of such regional director as chairman, the committee to consist otherwise of the chief engineer or other officer handling maintenance on the various railroads in such region.

Forms are provided upon which each railroad will record essential features in connection with its maintenance, and this report is supplemented by regular inspection reports.

The department is also handling matters in connection with proper standardization of practices in the maintenance of roadway and structures, studying questions of improved appliances and such engineering problems as are directly connected with maintenance and operation.

Car Service Section

The Car Service Section was the first of the agencies created in the Division of Operation. Its primary duty has been the relocation of freight cars upon the railroads throughout the country, and it has been the intimate point of contact between the Railroad Administration, on the one hand, and various branches of governmental activities, on the other.

The authority given to this section has necessarily been very broad, and with W. C. Kendall as manager there have been associated seven assistant managers, whose experience as transportation officers has covered practically all of the regions.

The Eastern Railroads Coal Car Pool, with headquarters at Pittsburgh, an inheritance from independent operation, has been continued under the jurisdiction of the Car Service Section with very satisfactory results. A large part of the increased coal production referred to elsewhere in this report can be directly attributed to the operation of this pool.

The Car Service Section consists of a central organization at Washington, with a Refrigerator and Tank Car Branch at Chicago and an Eastern Railroads Coal Car Pool at Pittsburgh, also a branch at Seattle, Wash., organized originally to supervise car service in the lumber districts of the Pacific Northwest in the interests of government shipments. The central office staff embodies, geographically and otherwise, a car service and transportation experience sufficient to provide comparatively intimate knowledge of conditions likely to arise in any part of the country.

The function of the section is to provide an equitable distribution of the various classes of freight-car equipment, and so to regulate other transportation details as to meet daily emergencies and to maintain a proper balance between the government, the public, and the railroads during the period when extraordinary demands of all kinds have been laid upon the transportation machinery of the country.

To meet the exigencies of the war, primary importance has attached to the requirements of all government activities. Close contact has constantly been maintained with the War and Navy Departments, the Shipping Board, the War Industries Board, the War Trade Board, the Housing Commission, and the Food and Fuel Administrations as well as with the allies' traffic representatives. Through this contact the railroads have been thoroughly and promptly advised of all government needs, which have been met with the least possible disturbance to other industries. Like contact has also been maintained with the Canadian Railway War Board, and necessary car supply has thus been made available for the large volume of commerce between Canada and the United States.

Car relocation.—Under federal control freedom has been exercised in moving empty freight cars of various classes to meet requirements, regardless of their ownership. Within the year fully 850,000 such movements have been made. Practically 700,000 of these have been box cars and the remainder stock cars and flat and gondola cars specifically for lumber tonnage. This does not include the emergency movements of refrigerators or the continuous relocation of coal cars under continuing instructions as required to equalize the empty supply among the various mining districts in the eastern, Allegheny, and Pocahontas regions. Through these means a comparatively easy car situation has been maintained generally throughout the United States for months past.

Beginning June 15 a movement of empty box cars was directed to the grain-producing territory of the Western and Southwestern states, with the intent of establishing a supply sufficient to meet the requirements of the Food Administration. As a result, when the wheat crop was ready to move there were cars available in the territory involved in sufficient quantities to protect every requirement in better shape than ever before, and this supply was regulated by further movement with the northerly progression of the harvest.

To meet the situation in the Southeastern states a continuous movement of empty box cars is kept under way, mainly into the lumber-producing territory. This was maintained until about October 15 sufficiently to fully meet all government and commercial demands. It then appeared that inbound loaded movement into that territory would be sufficient for empty requirements. Shortly thereafter a surplus developed, an altogether unprecedented situation. This section has been materially assisted in car supply by the location there of various army encampments, the necessary movement of supplies thereto having made available box cars for outbound loading.

It is the conviction of those familiar with the subject that only by this liquid distribution of freight cars through cen-

tralized control has it been possible to meet all requirements with reasonable promptness.

Campaign for advance movement.—Beginning in April and continuously thereafter for some months the attention of traffic organizations and shippers generally was called to the advantages possible by shipping raw materials and supplies during the summer months and prior to the anticipated period of heavy traffic normally to be expected about September 15. Full and generous response was made. This not only relieved the heavy tension customarily experienced during the fall months, but will further relieve the railroads during the severe winter months. This will be of material advantage alike to the shipping public and the railroads.

In April special action was necessary in connection with the movement from the Pacific Northwest of aviation fir and spruce for the War Department, ship timbers for the Shipping Board, and other lumber and miscellaneous articles on government account, including railroads, as well as regular commercial business. These arrangements continued until November when the aviation program was discontinued. The record from April 21 to November 20 shows a total movement from this territory of approximately 150,000 cars of lumber, of which 12,700 were for the aviation program, 5,500 for the Shipping Board, 6,700 for other government activities, 11,000 railway material, and commercial more than 115,000. This reflects an average daily movement of 813 cars of lumber from this section.

The movement of live stock, which has been extremely heavy, has been handled with far less complaint than ever before. There was some difficulty for a short time in providing transportation for the western sheep because of the abnormally high market which induced everyone to ship stock at the same time, but the extent to which the railroads met the situation is shown by reports from the markets at Chicago, Kansas City, Omaha, St. Joseph, St. Louis, Sioux City, and St. Paul, where the receipts of sheep for the period August 3 to October 19 totaled 4,486,102 head, as compared with 2,902,981 for the corresponding period in 1917, or an increase of 54.53 per cent. The heaviest week's receipts were those of September 28 when the market report shows 587,014 arrivals.

Coal and coke.—One of the heaviest tasks for the railroads during the past year has been in providing necessary transportation for fuel. This has only been accomplished by effective co-operation between the Fuel Administration and the Railroad Administration. It has been necessary to adopt extraordinary measures, and these as a rule have been cheerfully met by shippers, whose rights were at times very considerably affected. Foremost among these measures was the joint action of the two administrations in zoning the distribution of bituminous coal.

The foundation of successful operation in the steel industry lies in an adequate supply of coke, by-product coal, and steam coal. Every effort had been made during the year to maintain adequate supply of these fuels at such plants, and it is a matter of record at the War Industries Board that practically all of the transportation needs of coke, by-product coal, and fuel coal for the steel industries have been promptly and adequately met.

A step of much importance was taken by the establishment of uniform rules for rating of coal mines by which car supply is directed. These were made effective as of October 10, 1918. Previously roads were using different methods and with varying interpretations. On the uniform basis which now obtains a more equitable distribution of cars as between districts, railroads, and mines is possible than heretofore.

A factor which has an important bearing on the question of coal-car supply is the extent to which this type of equipment is used in handling stone, sand, and gravel for construction and road-building purposes, and curtailment of such noncoal use has been necessary. Cheerful co-operation and assistance has been received from all shippers thus adversely affected.

Car conservation.—Full credit is due the shipper for the patriotic way in which he has responded to requests for conservation of freight-car equipment by heavier loading. During the nine months January to September there was an increase per loaded car of 2.3 tons over the corresponding period for 1917. This has not been accomplished merely by the physical effort of loading more heavily. It has involved on the part of the shipping public not merely additional labor in loading into the car, but also changes in the size of packages, changes in the manner of constructing packages, and changes also in the manner of placing goods, particularly manufactured articles, within the packages. Thus, hogsheads used for the loading of tobacco have been reduced in size to permit double tiering, handles have been removed from baby carriages, grain cradles, and other agricultural implements, wagons, wheelbarrows, and other vehicles formerly shipped in large quantities set up, have been shipped knocked down. Shippers of barreled goods, such as oil, syrup, molasses, tanning extract, and the like, by using dunnage, are also making double tiering possible. In a general way the result sought by the carriers and shippers both has been "making one car do the work of two," but often greater conservation has been accomplished by the double and triple loading of small lots in one car.

Sailing day plan for handling less-than-carload freight.—An important feature of the activities of the Car Service Section is the development of the sailing day plan for handling less carload merchandise freight. During the past two or three years there has been an increasing tendency toward congestion at large centers and at transfer points, due to excessive accumulations of less carload freight. The sailing day plan has been inaugurated for the purpose of assembling less carload shipments to eliminate the necessity for transfer, thus insuring improved service and increased car efficiency. Regional committees have been appointed to supervise the concentration and consolidation of less carload freight from common points via one or more designated routes based on the volume of traffic and direct routing. At points common to several railroads subcommittees have been formed composed of representatives of railroads involved and in many cases including representatives of the chambers of commerce. Up to the present time this work has taken definite form at Baltimore, Boston, Milwaukee, Norfolk, Pittsburgh, Philadelphia, Roanoke, Trenton, and Wilmington, Del. As a specific instance of what can be accomplished, through cars of merchandise are now being loaded from Boston and other eastern points to San Francisco. It is expected that by January 1 next, sailing day plans will be effective at New York, Chicago, and St. Louis, with work in other sections progressing satisfactorily. While it is too early as yet to estimate results, present indications are that the handling of an average of 30 tons per day can be eliminated at each of the 400 transfer points now in operation throughout the United States. The feature of most importance is improvement in service, the expediting of freight, the reduction of loss and damage incident to rehandling, and the elimination of the necessity of embargoes.

Embargoes and permits.—The Car Service Section is responsible for supervision of the embargoes issued by railroads. Inasmuch as such supervision has never before been attempted by a central organization methods and practices have been allowed to develop naturally, and restrictions have been imposed only as a real necessity therefore appeared. The inevitable result is some lack of uniformity. An improvement in distribution was made early in the year, whereby the roads of the country were divided into 26 zones through which embargoes were simultaneously issued to each

road and forwarded to the Car Service Section. Formerly a railroad originating an embargo transmitted it to each of its connections and each connection, in turn, transmitted it to its connections, with a consequent piling up of duplications and delay. These zones have since been revised and reduced in number and further simplifications to conform more closely to regional lines are in prospect.

On January 1st, embargoes in eastern territory were more or less general in scope. As conditions improved and congestion was relieved, the necessity for general embargoes gradually ceased. At present no general embargoes are outstanding, practically all now in effect being local in character, and as a rule due to the condition at individual destinations. Embargoes are still in effect governing the handling of domestic and export freight to and through the North Atlantic ports and should be maintained in the interests of control of war and postwar conditions.

Because of the increasing activities of government departments and of the transportation conditions which prevailed last winter and early spring, individual railroads and various government organizations were attempting to authorize special movements of government and other important freight in violation of existing embargoes. This made necessary a uniform embargo and permit system in order to eliminate existing confusion.

This permit system proceeded upon two lines, one providing general and continuing exemption from embargoes for essential commodities, and the second providing special exemption from embargoes for individual shipments according as the needs of the individual consignee concerned and the public welfare might demand. To effect the general exemptions a list of standard exemptions to embargoes was issued under date of February 11, 1918. This gave, in the order of their importance, great freedom of movement to government freight, fuel, food, and essential commodities and was practicable and readily adopted by all roads where a complete embargo was not necessary. It avoided the necessity for issuing permits for individual movements to a very considerable degree.

Experience soon demonstrated, however, that general exemptions could not adequately meet public needs, and recourse was ultimately had to the plan of permitting special shipments. These permits were controlled and regulated very carefully, and the final tests as to whether or not they should be issued was the need of the destination community for the commodity and the ability of the consignee to accept and unload the goods without car delay. The needs of some government departments were met by authorizing the issue of necessary permits by a representative of the Railroad Administration assigned to the departments concerned. In other cases, particularly where the destination was for war reasons, one habitually congested without such traffic control, committees representing the administration were established to meet the situation. The Car Service Section furnished the medium for such control by permit when provision otherwise had not been made, and generally acted as a clearing house for and check upon all such traffic control representatives and committees.

The "permit system" has fully justified itself. Every effort has been made to utilize it without undue discrimination. To its successful operation is due in considerable measure the great improvement in movement which has been had during federal control.

Among other activities of the Car Service Section are those involving the arrangements for certain important movements as requested by the War and Navy and other government departments. This work developed with the ending of that of the priorities director, since which the Car Service Section has operated as liaison office between these government departments and the various railroads.

Refrigerator-car department.—The refrigerator department of the Car Service Section was organized with headquarters in Chicago July 1, 1918. Under this plan an abnormally heavy movement of perishable commodities has been handled in refrigerator cars with general satisfaction. Assurances have been received from perishable-freight associations and shippers, as well as private and railroad car owners, that the car supply this season as compared with the past seasons has been much more efficient and satisfactory. Serious shortages have been avoided, and the few minor shortages which have occurred have been local and of short duration. Co-operation has been readily extended by the private refrigerator lines, and this has permitted a free interchange of equipment and more general use of seasonal surpluses to meet demands in all territories.

Tank car.—A system of reports has been required from railroads respecting tank-car movements, the purpose being to develop within the organization of the individual road information indicating the number and causes of delays, together with the time involved. This has been salutary in effecting a much-needed improvement in the supply of equipment and the service. Large unit movements of tank-car shipments have been arranged, and without these tank-car requirements could not have been fully met. Apprehension by the oil division of the Fuel Administration that there would be a failure in tank-car supply has proved unfounded. Complaints of delayed movement have been greatly reduced in number. Average miles per tank-car per day show material increases.

Car-record office.—The car-record office of the Car Service Section, established on May 15 for the purpose of affording information to the various government departments relative to the location and movement of cars, has, from its inception to the present time, recorded movement of 1,026,000 cars, or an average of 5,700 daily, and has furnished information as required to the various departments, especially the War Department, which was interested in a far greater number of cars than any other department. Requests have been received and handled for special tracing covering the movement of about 16,000 cars. This office furnished a medium for tracing for all departments and has relieved individual railroads materially. The results of the work have been entirely satisfactory.

Miscellaneous figures.—Ninety thousand cars of grain have been moved under preferential orders given by the Food Administration. Six hundred and thirty thousand cars grain loaded during season (to date). Figures compiled and furnished various offices. Six thousand requests received for expedited placement and movement of cars, chiefly from War Department. Five hundred and sixty thousand cars moved to encampments, shipbuilding, and other points, requiring in many cases close supervision.

Inspectors.—A corps of experienced and competent inspectors is maintained. These men travel throughout the country and keep the section advised concerning such matters as utilization of available capacity of freight cars, the movement and distribution of empty freight equipment, the progress of special movements (as, for example, coal for the Northwest via the Lakes, coal for New England, etc.), delays to loaded cars account lost billing, embargoes, etc., the extent to which employees are kept informed regarding requirements for handling freight cars, etc. They are also used for the prompt development of facts in serious cases of complaint made by shippers. Much valuable information is obtained through their work.

Auxiliary committees.—In the development of the work of the Railroad Administration terminal managers have been placed at various transportation centers charged with responsibility and having authority for co-ordinating the terminals of the various lines in the interest of the public as a

whole. This has made possible the elimination of the large number of Car Service Section committees which were taken over with the railroads at the time federal control became effective and through which the commission on car service (the present Car Service Section) sought to bring about in part by agreement what the terminal managers now accomplish by direction.

Safety

The Safety Section was created February 19, 1918, with Hiram W. Belnap, formerly chief of the Bureau of Safety of the Interstate Commerce Commission, as manager. This section has been most effective in its work and in the creation of uniform practices for the enhancement of safety on the several railroads and has created organizations on those lines where none previously existed. The particular function of this section has been not only to emphasize and educate the employees in the matter of safety requirements provided for by existing laws, but to go much further than this and to locate unsafe practices of every character and point out the remedy.

The death of Mr. Belnap, which occurred on October 12, was a very great loss to the Railroad Administration, but the section has been continued under A. F. Duffy, assistant manager.

Troop Movement

The prompt, efficient, and safe movement of troops has been a first consideration throughout the period of federal control, and nothing has been permitted to interfere with it. From January 1 to the armistice there have been moved a total of 6,496,150 men, an average of 625,434 per month. The maximum was reached in July, when 1,147,013 men were moved.

Four outstanding points may be emphasized:

One million seven hundred and eighty-five thousand three hundred and forty-two drafted men were picked up at 4,500 separate points in larger or smaller units and moved on schedule to their training camps, in many cases upward of a day's journey, and in all cases, were fed in transit. The amount of detail involved in routing, scheduling, moving, and feeding these men can hardly be overestimated.

Four million thirty-eight thousand nine hundred and eighteen men in 9,109 special trains moved an average distance of 855 miles, unquestionably the largest long distance troop movement in history.

One million nine hundred and four thousand and fourteen men were brought into the crowded port terminals for embarkation overseas without interference with the heavy traffic of other kinds already being handled through these ports and in the territory adjacent thereto. During one period of 30 days more than 20 troop trains each day were brought into the port of New York.

During the period there were but 14 train accidents involving either death or injury of enlisted men.

The Troop Movement Section has had exclusive charge of this work since the beginning of federal control and, under a different designation, handled it for the railroads prior to that time.

The report of the section gives in detail the performance during the period of federal control and, for convenience, to cover the period of the war, the data has been expanded to include the period from May 1, 1917, to November 10, 1918.

A perfect understanding existed at all times with the general staff of the Army.

At the peak of the activities incident to the prosecution of the war it was necessary to provide for the daily movement to and from industrial plants and camps of 205,587 persons in each direction. To perform this work, 2,319 passenger-equipment cars were in daily use.

In September, 1918, this section was directed to undertake the handling of such labor movements as were being made under the direction of the Employment Service of the Department of Labor.

Contact was established in each state and large industrial center with representatives of that department, and the work has been carried through successfully since that time. The demands made upon this section by it have not been great; our records show that we were obliged to take action in cases involving only 25,157 persons.

On October 28 this section was directed to undertake the handling of all passenger-equipment cars. In line with the policy of making use of cars of any initial to meet the situation, we have not hesitated to send into the heavy express districts in the East baggage and express cars of all ownerships to meet the requirements of the holiday traffic. This, of course, is a temporary measure inasmuch as no opportunity has hitherto existed for an analysis of the express traffic as a whole.

A study of this situation should undoubtedly be made, primarily to ascertain the normal and seasonal flow of the express traffic and the relationship between the roads handling other than local traffic. This study will be undertaken with a view to accurate knowledge upon which proper recommendation and action may be based in the future.

It will be noted that the creation of the army and sending approximately 2,000,000 men to ports of embarkation involved the transportation of upwards of 8,700,000 men. It is estimated that to demobilize these troops will involve the transportation of not less than 7,250,000. Methods for handling this to the best advantage are gradually being worked out in connection with the proper organizations of the general staff, and while the problems are new and cannot be dealt with upon any precedent it is not anticipated that any insurmountable difficulty will be encountered.

MAY, 1917, TO NOVEMBER 10, 1918

Troops moved:			
(a) Drafted men from their homes		2,287,926	
(b) On regular trains		1,380,564	
(c) On special troop trains		5,046,092	
Total			8,714,582
(d) Average per month		502,764	
(e) Maximum, July, 1918		1,147,013	
Equipment furnished:			
(a) Pullman, standard and tourist		70,413	
(b) Coaches for special troop trains		65,954	
Estimated coaches for draft and regular train movements		69,802	206,169
(c) Baggage and express cars for special troop trains		11,709	
Estimated baggage and express cars for drafted men		4,576	16,285
(d) Freight cars for special troop trains			23,075
Total			245,529
Special troop trains:			
(a) Number run		11,959	
Estimated number required for drafted men		4,576	16,535
Average special troop trains:			
(a) Number cars per train	12.6		
(b) Distance handled per train	875.4		
(c) Number hours per train	44.2		
(d) Number miles per hour	19.8		
(e) Number men per train	421		
Accommodations:			
(a) Number handled in Pullman cars			2,671,074
(b) Number of men handled in coaches			6,043,508
(c) Percentage in Pullman cars			30.6
Accidents involving death or injury:			
(a) Number			16
(b) Number of men killed			39
(c) Number of men injured			335

To accomplish the demobilization and to properly serve the express traffic a continuation of the policy of the common use of coaches and baggage and express cars must necessarily be continued until the occasion therefor is removed.

The work of this section has been performed by the following forces:

In the Washington office, three heads of departments and 27 clerks.

In the country at large six department general agents;

dividing the United States between them, 54 camp general agents and the necessary force of 60 clerks. In addition, there has been on each railroad an authorized official to whom all directions as to troop and other movements were transmitted and who made himself responsible for their proper carrying out. The number of these is 204. To deal with the draft there was placed in the office of the governor or adjutant general of each state a representative of the passenger department of some road serving the territory to deal with the innumerable questions relating to the movements of drafted men. The number of these is 49.

The work which has been performed by this section would have been impossible except for the continuous and cordial co-operation of the War Department and the Railroad Administration.

Operating Statistics Section

This section was created May 6, 1918, and after careful consideration and report upon the subject had been made by a committee of executive and accounting officers selected from railroads in all sections of the country.

The plan for standardizing statistical practice became effective August 1, 1918. Except in two particulars—the computation of net ton-miles from the train reports and the distribution of locomotive-hours—there is no material departure from the practices already established on the majority of the railroad mileage, but it was made uniform throughout. The statistics are available within a reasonable time, considering the magnitude of the figures, and are compiled individually for all Class 1 railroads under federal control and separated into regions. Because the cost of materials and labor has been steadily climbing, comparisons of transportation costs, expressed in money, are valueless, but the comparisons of physical performance afforded by these statistics are most instructive and helpful to the operating officers.

The creation of the Operating Statistics Section on May 6, 1918, grew out of the recommendations of the committee on operating statistics appointed April 11, to report upon what should be done to furnish operating statistics, and to bring about a uniformity in statistical methods and reports.

The functions of this section are:

(1) To decide upon operating statistical standards and to make them effective;

(2) To act as a clearing house for the receipt of the standardized forms, and for the analysis of the operating results, as well as for the dissemination of the figures in detail and in summarized form;

(3) To make such special analyses of the results of any particular road, groups of roads, or regions as may be required, and to report upon other specific subjects referred to it for special study.

The first object has been attained in that practical uniformity in operating statistical practice has been accomplished. Complete figures are now available for all Class 1 roads (those having operating revenue in excess of $1,000,000 per year), under federal control, and the figures are compiled on uniform bases. The new plan has done for operating statistics what the classifications of the Interstate Commerce Commission have accomplished for railroad accounting. It is now possible to compare not only the accounting returns, but also the operating statistical returns of the individual roads without the qualifications and the uncertainties heretofore unavoidable because of variations in statistical practice. The aim of the new plan has been to continue the best in current practice without imposing undue hardship or unnecessary expense. While believed to be scientifically comprehensive, and to give the fundamentally important information, the new plan has not been carried so far toward the ideal as to be impractical or unjustifiably burdensome.

The force of the section has expanded gradually as its work has enlarged. At this date it numbers 21 employees. It will undoubtedly be necessary to add to the force as the work of the section is further enlarged in making a more complete check of the reports and in compiling additional summaries. The effective utilization of the large amount of information for the purposes of administrative control, both centrally and locally, is still in the early stages of development.

As now being published, there are four sets of monthly statistical summaries, which show the following information for individual roads, districts, regions and total:

(1) FREIGHT-TRAIN PERFORMANCE (EXCLUDING MIXED AND SPECIAL TRAINS)

(Statistics in practically all items shown by directions and in comparison with the same period of previous year.)

Average miles of road operated.
Net ton-miles per mile of road per day.
Net ton-miles per train-hour.
Train speed in miles per hour.
Net ton-miles per train-mile.
Per cent of net ton-miles to gross ton-miles.
Per cent of loaded to total car-miles.
Net ton-miles per loaded car-mile.
Gross ton-miles per train-mile.
Per cent of gross ton-miles to rating ton-miles.
Per cent of locomotive miles to train-miles.

All of the basic data from which the foregoing averages are derived are shown on pages 2 and 3 of the monthly summary.

(2) UTILIZATION OF FREIGHT EQUIPMENT (FREIGHT AND MIXED TRAINS)

Average number of locomotives, (*a*) serviceable; (*b*) unserviceable; (*c*) total.

Average number of cars on line daily, (*a*) serviceable; (*b*) unserviceable; (*c*) total.

Per cent of unserviceable to total equipment, (*a*) locomotives; (*b*) freight cars.

Miles per locomotive-day, (*a*) serviceable locomotives; (*b*) total locomotives.

Net ton-miles per loaded car-mile.
Per cent loaded to total car-miles.
Car-miles per car-day.
Net ton-miles per car-day.

(3) NUMBER OF LOCOMOTIVES AND DISTRIBUTION OF LOCOMOTIVE HOURS

(Divided to show separately the data for freight, passenger, switch, other, and total.)

AVERAGE NUMBER OF LOCOMOTIVES ON LINE

Distribution of locomotive-hours, showing for each class of service the hours and per cent of total hours, (*a*) on road; (*b*) at terminals; (*c*) in engine houses; (*d*) stored; and (*e*) total.

(4) CONDENSED INCOME ACCOUNT

A monthly statement has been prepared since August, which shows for each Class 1 road and for each region the principal items of the income account—operating revenues, operating expenses, net operating revenues, net federal income, average "standard return," and per cent of "standard return" earned, both for the month and for the cumulative period of the calendar year.

ADDITIONAL SUMMARIES TO BE ISSUED

It is the intention, beginning with the month of November, to issue monthly summaries of "passenger-train performance" and "locomotive and train costs."

Effective with the returns for the month of December this section plans to begin the work of compiling monthly re-

ports showing the number of cars of less-carload freight, as well as statistics which show the average carload for certain selected commodities moving in carloads. These statistics have recently been compiled by the Association of Transportation and Car Accounting Officers for the Car Service Section of the Railroad Administration.

Telegraph Section

The Telegraph Section was created July 1, 1918, and to this section has been assigned the work of co-ordinating the telegraph and telephone facilities of the railroads under federal control. A great deal has been accomplished in this direction, and the work is steadily progressing.

Consideration is being given to the relations between the railroads and the commercial telegraph companies now also under federal control, and, in conjunction with a committee appointed by the postmaster general, the subject of these relations is being thoroughly gone into.

Instructions have been issued providing for the use of symbols and a brevity code in composing telegrams, and study is being given to testing newly invented telegraph and telephone devices.

Fuel Conservation Section

This section was created May 1, 1918, with Eugene McAuliffe as manager, and representatives who had had practical experience in the use of locomotive fuel, as well as in its production, were assigned to each region. There has been constant co-operation with the Fuel Administration, and a consistent effort has been made to improve the quality of coal purchased for locomotive use, as well as to instruct enginemen in proper and economical firing. The cost of fuel to the railroads, now aggregating about $473,000,000 annually, exclusive of road haul on users' rails, represents the largest single item of operating expense other than labor.

The marked improvement in the measure of supervision and supervising methods established and the specific attention given to the selection and inspection of coal at mines, as well as the economical use of same on locomotives and in stationary plants, has resulted in very material fuel savings on the several railroads, and the revised methods of distribution which have been worked out will result in economy in road hauls.

While deprived of the stimulus of war necessity, work in the Fuel Conservation Section will move along continuously broadening lines, the recent extraordinary increase in fuel costs rapidly bringing this angle of railroad-operating expense into such marked prominence as to warrant continual refinement in purchasing, operating, and maintenance methods; the question of determining the most economical grade of coal for use on the heavier type of locomotives, the best method of obtaining the maximum return in fuel economy for use of the locomotive superheater, the possibilities of the locomotive feed-water heater, and the determination of methods that will reduce the stand-by fuel losses of large locomotives present problems worthy of the most serious consideration.

Exports Control Committee

Mention has been made elsewhere in this report of the lack of co-ordination between the rail lines and the vessels handling overseas traffic. The control of all shipping, both for the United States and for the allied governments reaching American ports, had been given to the Shipping Control Committee, of which P. A. S. Franklin is chairman.

On June 11, 1918, by agreement between the secretary of war, the secretary of the navy, and the director general of railroads, the Exports Control Committee was organized, with George D. Ogden, representing the Railroad Administration, as chairman; Maj. Gen. George W. Goethals, United States Army, representing the War Department; Rear Admiral C. J. Peoples, representing the Navy Department; P. A. S. Franklin, representing the Shipping Control Committee; and D. W. Cooke, representing the allies.

The work of this committee has been intelligently and sympathetically directed, and there has been as a result of its activities a most satisfactory co-ordination between the rail and ocean lines. Freight for overseas from the interior has been allowed to come forward only on permits, and these permits were issued where there was a practical certainty, barring only the exigencies of the war, that ships would be promptly available.

In General

It is not unnatural that with so fundamental a change, and with the large number of officers and men involved, there should have been some uneasiness and uncertainties arise, and we have not been without in the earlier period of federal control some evidences of demoralization in service as a result of these conditions, but the fact that there were so few is a most gratifying evidence of the patriotism and discipline of the officers and men in railroad service.

The Railroad Administration was organized in a period of unprecedented business, aggravated by weather conditions, which as to severity and duration have never been equaled.

The needs of a government at war involving the greatest variety of activities, many of them in localities heretofore relatively unimportant and with an insufficiency of facilities, had to be satisfied.

Fuel for industries and homes, as well as food for the domestic population and our Army abroad and of the allies, had to be provided concurrently with an unprecedented commercial and industrial activity.

The fact that this was done and that the railroads, emerging from the stress of weather conditions in March, were functioning normally by May 1, and have continued to do so, speaks for itself.

Railroad Administration News

The net ton miles of revenue and non-revenue traffic handled by the railroads under federal control during the month of November increased 1½ per cent as compared with November, 1917, according to the monthly report of the Operating Statistics Section. The total train miles decreased 2.6 per cent and the net ton miles per train mile increased 4.1 per cent, while the net ton miles per mile of road per day increased from 5,180 in November, 1917, to 5,255 in November, 1918. The total freight car miles decreased 3.1 per cent and the average number of freight cars on line daily increased 3.1 per cent. The car miles per car day decreased 6 per cent from 26.6 to 25, while the net ton miles per car day decreased 1.6 per cent.

Passenger Traffic in October

Railroads during the month of October handled a passenger traffic amounting to 3,194,955,151 passenger miles, a decrease of 10.7 per cent, according to the monthly report of the Operating Statistics Section. Decreases were shown in all the regions excepting the Allegheny and Pocahontas regions. For the 10 months ended October 31 the number of passengers carried one mile shows an increase of 10.8 per cent as compared with the corresponding period of 1917.

Disposition of Empty Containers

The Claims and Property Protection Section has issued Circular No. 5, prescribing regulations governing the receipt of empty containers as described in classifications, and the disposition of such containers when astray.

Boiler Efficiency Increased by New Type of Firebox

Eighteen Per Cent Greater Evaporation Per Pound of Coal Secured in Tests on C. M. & St. P.

THE CHICAGO, MILWAUKEE & ST. PAUL has recently completed a series of road tests of a locomotive equipped with a new type of firebox. The principal feature of the design consists of two water legs extending longitudinally from the throat of the boiler to the crown sheet. The trials were conducted with one locomotive so equipped and another of the same class with a firebox of the usual type. The results showed that the new design caused a noteworthy increase in the boiler efficiency with a corresponding decrease in the fuel consumption. The performance, as developed by the tests, is summarized in the table below. Locomotive 7142 had the ordinary type of boiler, while engine 7615 had the new type of firebox.

The boiler tests conducted at Coatesville in 1912 proved conclusively that the water evaporated per square foot of heating surface in a locomotive boiler is much greater in the firebox than in the boiler tubes and flues. The maximum evaporation per square foot of tube heating surface is estimated at about 10 lb. per hr., while the corresponding figure for the firebox is 55 lb. per hr. Since these important facts have been demonstrated, the tendency in boiler design has been along the line of increased firebox heating surface. It is a difficult matter to secure more than a very limited increase in the area of the sheets in the usual design of firebox. To overcome this difficulty J. L. Nicholson of the Locomotive Firebox Company, Chicago, recently patented a new design of firebox. The salient features of this design are the water legs in the firebox, known as Nicholson Thermic Syphons.

The syphon is formed from a single sheet rolled to shape and closed by welding along the front edge. The sides are set four inches apart and joined to the crown sheet, extending from a point about 18 in. from the front edge to about 6 in. from the rear. The front edge of the water leg is parallel to the tube sheet; from the back of the crown sheet it slopes downward toward the throat of the boiler. The cross section of the leg is increased at the lower edge to form a segment of a circle six inches in diameter, which joins a 6-in. tube extending into the lower portion of the tube sheet. The syphons thus form a support for the sectional brick arch. Fig. 1 shows the side elevation and plan of the firebox on which the tests were made, equipped with the syphons. Fig. 2 shows another method of installing thermic syphons in locomotive fireboxes. In this case, instead of flanging the neck of the syphon out and welding it into the throat sheet, a separate diaphragm plate is used, the syphon being formed with a separate neck and expanded into the diaphragm plate, also being riveted and welded as shown. This is for the purpose of giving more flexibility to the installation, and also to enable the manufacturers, by eliminating the flanged portion of the neck and making the neck long enough to fit extreme cases, to standardize forms and dies necessary for the manufacture of the syphons.

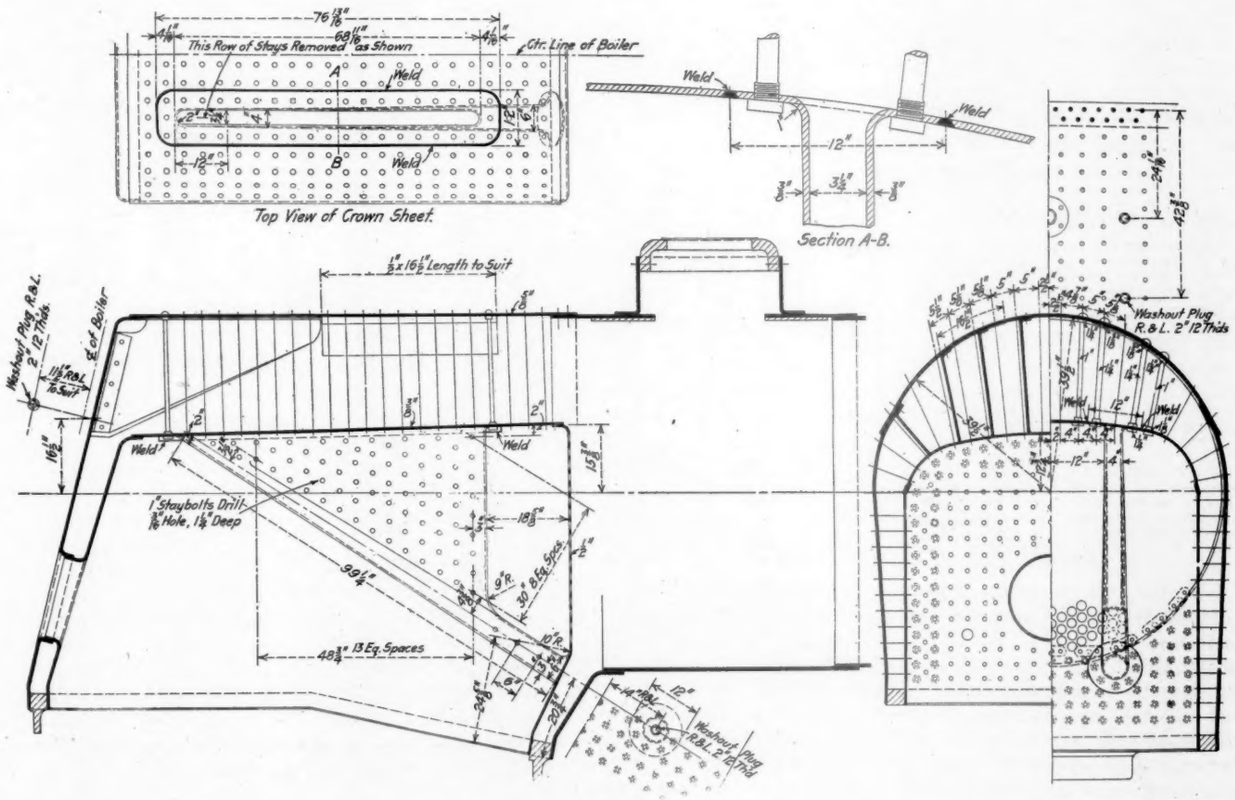

This Row of Stays Removed as Shown
Ctr. Line of Boiler
Weld
Top View of Crown Sheet.
Section A-B.
Washout Plug R.&L. 2" 12 Thds.
Ctr. of Boiler
1" Staybolts Drill 13/16" Hole, 1 1/4" Deep
30 Eq. Spcs.
13 Eq. Spaces
Washout Plug R.&L. 2" 12 Thd

Fig. 1—Firebox of Chicago, Milwaukee & St. Paul Locomotive Equipped with Nicholson Thermic Syphons

The locomotives tested were of the Consolidation type, using saturated steam and equipped with piston valves and Walschaert valve gear. They were alike in all respects except that the firebox of locomotive 7615 was equipped with the Nicholson Thermic Syphons supporting the brick arch, while 7142 had the ordinary type of firebox with a brick arch supported on four 3-in. arch tubes. Both had recently received heavy repairs. The principal data for the two locomotives are given as follows:

General Results of Tests

	Engine 7142	Engine 7615	Decrease, Engine 7615, Per cent
Pounds coal fired per thousand gross ton miles, actual	124.36	93.64	24.7
Pounds coal fired per thousand gross ton miles, equated	124.36	86.63	30.3
Pounds coal fired per locomotive mile	271.9	218.9	19.4
Average tonnage hauled	2.190.0	2,340.0	6.8*
Pounds of water used per thousand gross ton miles	670.72	596.22	11.1
Pounds water evaporated per pound of coal fired	5.39	6.36	18.0*
Equivalent evaporation per pound of coal fired	6.54	7.74	18.3*
Equivalent evaporation per pound of dry coal	7.28	8.60	18.1*
Equivalent evaporation per pound of combustible	8.37	10.49	25.3*
Boiler efficiency	57.65	73.75	27.92*
Front-end temperature	625 deg. F.	550 deg. F.	13.6

* Increase.

Numerical quantities under engine 7142 considered as 100 per cent in the above.

Locomotive Data

	Engine 7615	Engine 7142
Cylinder diameter and stroke	23 in. by 30 in.	23 in. by 30 in.
Diameter of drivers	63 in.	63 in.
Tractive effort	42,800 lb.	42,800 lb.
Weight on drivers	190,400 lb.	189,200 lb.
Total weight of engine	216,900 lb.	215,700 lb.
Total weight of engine and tender	351,450 lb.	350,250 lb.
Boiler type	Straight, radial stay	Straight radial stay
Boiler diameter, first course	75¾ in.	75¾ in.
Grate area	48.8 sq. ft.	48.8 sq. ft.
Tubes, number and outside diameter	414—2 in.	418—2 in.
Tube heating surface	3,143.0 sq. ft.	3,173.4 sq. ft.
Normal firebox heating surface	195.7 sq. ft.	195.7 sq. ft.
Heating surface added by arch tubes	.....	29.3 sq. ft.
Heating surface added by thermic syphons	53.0 sq. ft.	.....
Total firebox heating surface	248.7 sq. ft.	225.0 sq. ft.
Total heating surface	3,391.7 sq. ft.	3,398.4 sq. ft.
Total heating surface ÷ grate area	69.5	69.6
Firebox heating surface ÷ total heating surface, per cent	7.3	6.6
Firebox heating surface ÷ grate area	5.1	4.6

Test Condition and Methods

The test runs were conducted between Milwaukee and Portage, Wis. The distance westbound was 91.8 miles and eastbound 89.1 miles. There was no attempt to control the makeup of the test trains. The tonnage was limited to what the engines could handle on the ruling grade, and trains were run as extras with whatever cars were available. Two trips eastbound and two westbound were made with each locomotive, the same engine crew being used on all the tests. A road foreman of engines acted as cab observer and all other readings were taken by employees of the test department under the direction of G. P. Kempf, engineer of tests. Weather conditions were uniform throughout the tests. A summary of the tonnage and time consumed is given below.

Train Make-Up, Tonnage and Time

1 Eng. No.	2 Test No.	3 Cars hauled over ruling grade	4 Tonnage over ruling grade	5 Adjusted tonnage	6 Gross ton-miles	7 Time over division, hr. min.	8 Time in motion, hr. min.
7615	1-E	49 lds. 5 empt.	2565	2565	228,285	6 54	5 38
	2-W	29 lds. 1 empt.	2027	2166	198,853	6 59	5 14
	3-W	32 lds. 1 empt.	2055	2237	205,410	7 46	5 54
	4-E	34 lds. 35 empt.	2392	2391	212,900	6 17	5 12
	Ave.	36 lds. 10 empt.	2260	2340	211,362	6 59	5 30
7142	1-W	35 lds. 31 empt.	1976	1976	181,400	8 27	6 27
	2-E	47 lds. 7 empt.	2315	2294	204,200	6 38	5 8
	3-W	45 lds. 0 empt.	2006	1990	182,700	7 13	5 39
	4-E	51 lds. 0 empt.	2499	2499	222,400	5 45	5 5
	Ave.	44 lds. 9 empt.	2199	2190	197,675	7 1	5 35

The engines were coaled at the chutes, no attempt being made to select the coal. The amount used was obtained by weighing the tender at the end of each run with all water emptied out of the tank. Sacked coal was used while at terminals and standing or switching on the road.

Samples were taken from the tender during each trip and were later analyzed. The average analysis was as follows:

Analysis of Coal as Fired

Eng. No.	Moisture	Volatile combustible	Fixed carbon	Ash	B. t. u. per pound coal
7615	10.00	35.02	38.75	16.23	10,184
7142	10.21	37.36	40.80	11.63	11,008

The coal consumption and rate of firing are shown in the following table:

Coal Consumption

1 Eng. No.	2 Test No.	3 Total lb. coal fired	4 Average lb. coal fired per hr.	5 Lb. coal per hr. per sq. ft. of grate	6 Lb. coal fired per 100-car mile	7 Lb. coal fired per locomotive mile	8 Lb. coal fired per gross 1-000 ton-miles
7615	1-E	18,400	3,262	66.84	382.8	206.7	80.60
	2-W	20,450	3,903	80.00	689.0	222.7	102.84
	3-W	20,820	3,523	72.19	513.7	226.8	101.35
	4-E	19,505	3,744	76.72	317.6	219.1	91.61
	Ave.	19,794	3,599	73.75	440.6	218.9	93.64
7142	1-W	29,450	4,558	93.40	486.0	320.8	162.12
	2-E	22,100	4,300	88.11	483.9	248.3	108.22
	3-W	25,855	4,568	93.60	638.1	281.6	141.51
	4-E	20,930	4,120	84.42	461.1	235.1	94.10
	Ave.	24,584	4,401	90.18	510.8	271.9	124.36

From an operating standpoint the boiler performance of both locomotives was satisfactory, although it was noticeable that the boiler of engine 7615 was more responsive to the demands made upon it than that of engine 7142. The tables below summarize the boiler performance.

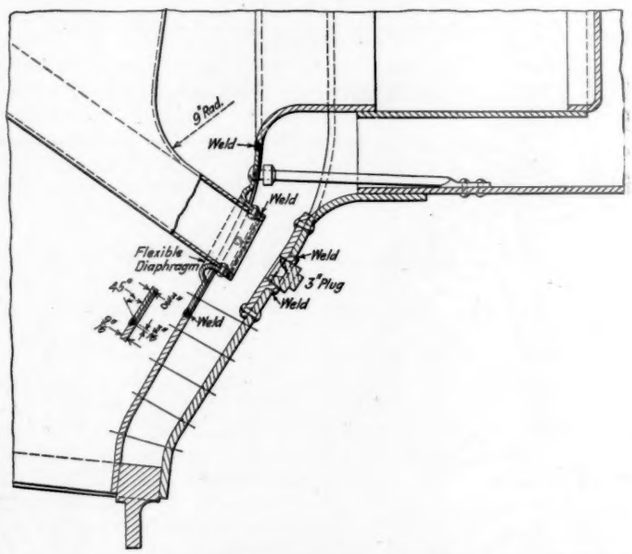


Fig. 2—An Improved Method of Applying the Thermic Syphon to the Throat

Boiler Performance—Coal and Apparent Evaporation

1 Eng No.	2 Test No.	3 Lb. coal fired per hour	4 Lb. water evap'd per hour	5 Lb. water evap'd per lb. coal	6 Lb. water evap'd per sq. ft. heat. surf.	7 Temp. feed water	8 Average boiler pressure	9 Factor of evap.
7615	1-E	3,262	21,782	6.68	6.42	49 Deg.	198.3	1.2187
	2-W	3,903	23,553	6.04	6.94	52 Deg.	199.2	1.2149
	3-W	3,523	22,825	6.48	6.73	52 Deg.	198.9	1.2149
	4-E	3,744	23,589	6.30	6.95	51 Deg.	198.4	1.2159
	Ave.	3,599	22,912	6.36	6.75	51 Deg.	198.7	1.2159
7142	1-W	4,558	23,707	5.20	6.97	50 Deg.	198.8	1.2170
	2-E	4,300	24,554	5.71	7.22	54 Deg.	198.3	1.2129
	3-W	4,568	23,394	5.12	6.88	58 Deg.	196.6	1.2086
	4-E	4,120	23,338	5.66	6.88	52 Deg.	197.6	1.2149
	Ave.	4,401	23,728	5.39	6.98	53 Deg.	197.9	1.2139

BOILER PERFORMANCE—EQUIV. EVAP. HORSE POWER AND EFFICIENCY

Equivalent-evaporation—from and at 212 Deg. F. lb.

Eng. No.	Test No.	Per hour	Per hr. per sq. ft. heat. surf.	Per lb. of coal as fired	Per lb. of dry coal	Per lb. of combustible	Boiler hp.	Boiler efficiency
7615	1-E	26,546	7.82	8.14	9.04	9.42	769.4	67.00
	2-W	28,615	8.43	7.34	8.14	10.22	826.5	73.63
	3-W	27,730	8.16	7.87	8.74	11.09	803.7	77.96
	4-E	28,682	8.45	7.66	8.51	10.77	831.3	77.26
	Ave.	27,858	8.21	7.74	8.60	10.49	807.4	73.75
7142	1-W	28,851	8.48	6.33	7.10	8.26	836.2	58.00
	2-E	29,781	8.76	6.93	7.35	8.95	863.2	61.35
	3-W	28,274	8.31	6.19	6.96	7.85	819.5	53.89
	4-E	28,353	8.34	6.88	7.59	8.56	821.8	58.10
	Ave.	28,803	8.47	6.54	7.28	8.37	834.8	57.65

It will be noted that the average boiler horsepower developed by locomotive 7615 was 807.4, as compared with 834.8 horsepower for engine 7142. This is to be accounted for by the fact that engine 7142 consumed 12.4 per cent more water per thousand gross ton miles. Neither of the locomotives was forced to the limit of the capacity of the boiler. Engine 7615 developed a maximum boiler horsepower of 1,015 on the grade from Milwaukee to Brookfield. This is at the rate of 35,000 lb. equivalent evaporation per hour, or 10.62 lb. per square foot of heating surface per hour.

During one round trip with each locomotive readings were taken of the vacuum in the front end, firebox and ashpan, and also of the temperature in the front end. The results are shown in the table below.

DRAFT AND FRONT END TEMPERATURE

Eng. No.	Test No.	Lb. coal fired per hour	Lb. coal fired per sq. ft. grate per hour	Draft—Inches of water			Front end Temp. Deg.
				Front end	Firebox	Ash pan	
7615	1-E	3,262	66.84	5.2	1.67	.27	520
	2-W	3,903	80.00	5.3	1.66	.29	536
	Ave.	3,582	73.42	5.25	1.66	.28	528
7142	1-W	4,558	93.40	5.3	1.56	.22	610
	2-E	4,300	88.11	5.0	1.27	.17	589
	Ave.	4,429	90.15	5.15	1.41	.195	599

Both locomotives had double exhaust nozzles with 3½-in. tips at the time these readings were taken. On the last round trip with engine 7615 the tips were enlarged to 3-11/16 in. diameter, which reduced the vacuum somewhat. The front end temperatures were obtained by means of a Hoskins pyrometer. It is thought that owing to an improper adjustment of the recorder the temperatures recorded for engine 7142 are too low.

No analysis was made of the front end gases, so it is impossible to tell exactly what changes in combustion conditions were brought about by the changes in the firebox. The reduction in the coal consumption, the increase in the evaporation and the marked absence of smoke indicates that the syphons tend to improve combustion conditions by breaking up the stream of gases and securing a better mixture of the combustible gases and the air.

In considering the increased boiler efficiency secured by the use of the Nicholson Thermic Syphons it should be noted that engine 7615 was working at a lower rate of evaporation than engine 7142 and also at a lower rate of combustion, which made a favorable condition for obtaining higher boiler efficiency. In this connection, however, it should not be overlooked that this was not due to operating conditions favoring engine 7615, as the average tonnage hauled by this locomotive was 6.8 per cent greater than that hauled by engine 7142. Making due allowance for the favorable evaporation and combustion rates, there remains a gain in economy which cannot be attributed entirely to the increased firebox heating surface. There is evidently a further saving due to the increase in the radiating surface in the firebox, to the more intimate mingling of the combustible gases with air in the firebox and to the more rapid circulation through the boiler. It is estimated that the rate of flow through the syphons is so fast that all the water in the boiler passes through them every five minutes. Such rapid circulation will cause the water to remain at more nearly uniform temperature throughout the boiler. This should result in a decrease in the boiler troubles due to unequal expansion and contraction.

The cost of application of the Nicholson Thermic Syphons is low, and it is anticipated that the maintenance charges will be negligible compared with the savings effected. The syphon requires no more attention than any other part of the firebox and when properly applied is practically fool-proof and accident-proof. The first installation has been in service for four months and has given no trouble from mud or scale. The rapid circulation has kept the syphons clean and has apparently resulted in throwing the mud and scale into the back water leg, where it can easily be removed. Up to the present time there has been no evidence of scale in the syphons, and no leak or trouble of any nature has developed at the seams or stays. The Chicago, Milwaukee & St. Paul is now planning to install the syphons on several additional locomotives.

Cleveland Station Ordinance Approved

THE PUBLIC SQUARE union station ordinance submitted to the people of Cleveland for ratification was passed in a special election on January 6 by a vote of about two to one. Under this ordinance the mayor is authorized to enter into a contract with the Cleveland Union Terminal Company which will provide for the construction of a union passenger station for all of the railroads and interurban lines entering the city.

The officers of this company are quoted as saying that work will be commenced on the project in the spring, the complete expenditure for which is estimated at $50,000,000. It is said that all the railroads have agreed to co-operate in carrying out this plan.

All of the railroads entering Cleveland, with the exception of the Pennsylvania Lines, the New York Central and the Nickel Plate, occupy locations in the valley of the Cuyahoga river, a rather tortuous flat extending southeast from the lake just west of the business center of the city. The New York Central occupies tracks and terminals along the lake front, while the Nickel Plate has a parallel location from two to three miles back from the lake with terminals adjacent to the other roads in the river valley. The Pennsylvania Lines enter the city from the south and use the New York Central passenger station on the lake front, to which they have access by a line across the city about two miles east of the station.

The new union station project provides for a passenger station for all steam roads as well as for the numerous electric interurban routes which now occupy the city streets. The proposed site is centrally located to the south of the Cleveland public square at the top of the bluff overlooking the Cuyahoga valley. The bluff is connected with the bluff on the west side of the valley by a viaduct, 1,000 ft. long, just west of the proposed station. The plan provides for access to this terminal by all of the roads with but limited detours from existing lines with the exception of the New York Central, which would reach it over the tracks of the Nickel Plate. The project also includes extensive local freight terminal developments on a site close to the proposed passenger station.

The station project is backed by financial interests headed by O. P. Van Sweringen, of Cleveland, president of the New York, Chicago & St. Louis, who is also identified with the Cleveland & Youngstown Railroad, an interurban line, extending to the east through the Shaker Heights and other real estate developments. One of the more recent activities of these interests has been the construction of the High Level Freight Terminal at Orange avenue and Broadway, used by

the New York Central, the approach line to this terminal being one link of the entrance to the proposed station.

One of the principal objections raised to this plan preceding the recent election was the fact that it nullifies the plan of the City of Cleveland undertaken as early as 1901 for a union passenger station on the lake front, to form part of a civic center or mall, around which the principal public buildings of the city were to be grouped. The people of the City of Cleveland had already committed themselves definitely to this plan through the purchase of land and the construction of a new court house, a city hall and other buildings, and in November, 1915, the city entered into a contract with several of the railroads for the definite prosecution of this plan, but nothing had been done other than the construction of the municipal buildings above mentioned.

Freight Traffic Statistics for October

THE MONTHLY STATEMENT of freight traffic movement and car performance compiled by the Operating Statistics Section of the Railroad Administration is published for the month of October in a new form, based on data reported on the new standard forms. The figures continue to show an increasing volume of traffic handled. The net ton miles increased 3.5 per cent in October as compared with October, 1917, while for the 10 months ending October 31 the increase was 1.9 per cent. This increase was handled with a decrease in train miles of 2.2 per cent for October and of 2.1 per cent for the 10 months. There was an increase in the average train and car loading and an increase for October in the car miles per car day, although for 10 months there was a decrease of 6 per cent in this item. The increase in empty car mileage continued, amounting to 14.3 per cent for October and 3.9 per cent for 10 months. The net ton miles per car day increased 2.7 per cent for October but decreased 1.4 per cent for the 10 months period. The new tables include a figure for percentage of unserviceable freight cars, 6 per cent for this year as compared with 5.6 per cent for last year for the month of October, while the percentage for 10 months is 5.7 per cent, the same as for 1917. A summary of the report by regions and districts is shown in the table.

The Railroad Administration has also given out a statement of train and locomotive performance in freight service, not including mixed and special trains, for the month of October, showing by individual roads the freight train miles, freight locomotive miles, freight car miles, gross ton miles, rating ton miles, net ton miles, train hours, net ton miles per train hour, train speed, net ton miles per train mile, per cent net ton miles to gross ton miles, per cent loaded car miles to total car miles, net ton miles per loaded car mile, gross ton miles per train mile, per cent gross ton miles to rating ton miles, per cent locomotive miles to train miles, average number of freight locomotives, locomotive miles per day, gross ton miles per locomotive mile, net ton miles per locomotive day, tons of coal consumed, and pounds of coal per locomotive mile and per 1,000 gross ton miles.

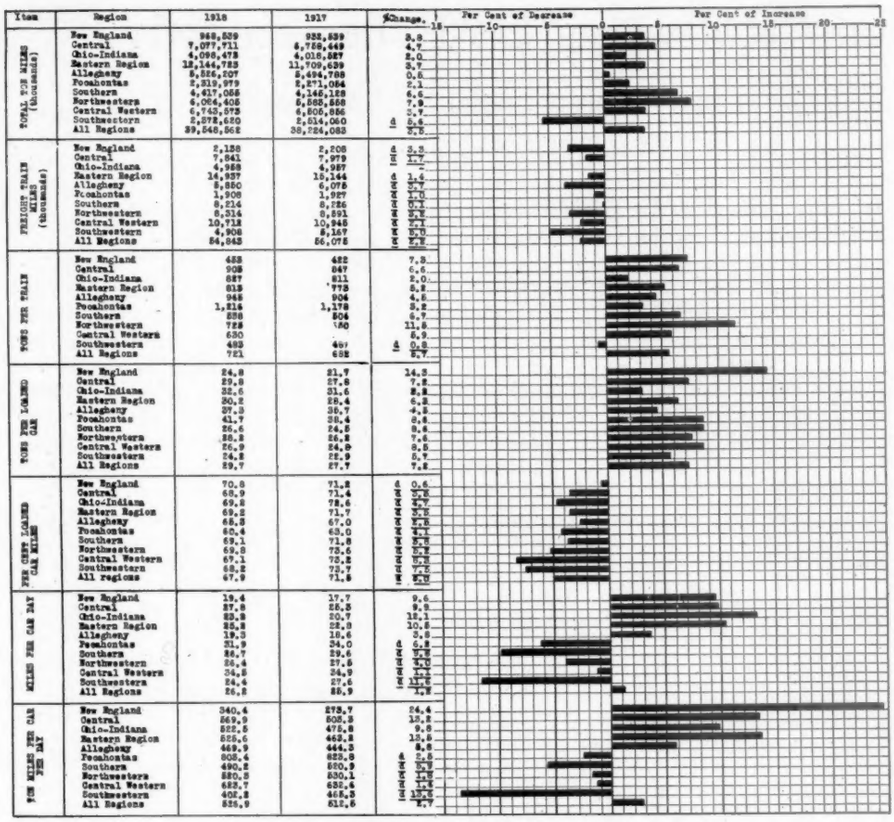
FREIGHT TRAFFIC MOVEMENT AND CAR PERFORMANCE, OCTOBER, 1918 AND 1917.
(Including Freight and Mixed Trains)

Railroad	Average miles of road operated		Net ton miles, revenue and non-revenue (Thousands)			Net ton miles per mile of road per day		Train miles (Thousands)			Net ton miles per train mile		
	This year	Last year	This year	Last year	Per ct. change	This year	Last year	This year	Last year	Per ct. change	This year	Last year	Per ct. change
Total, New England District	8,160	8,151	968,539	932,662	3.8	3,822	3,689	2,138	2,208	d3.3	453	422	7.3
Total, Central District	21,048	21,152	7,077,711	6,758,449	4.7	10,847	10,307	7,841	7,979	d1.7	903	847	6.6
Total, Ohio-Indiana District	14,132	14,133	4,098,473	4,018,527	2.0	9,355	9,172	4,958	4,957	a	827	811	2.0
Grand Total, Eastern Region	43,340	43,436	12,144,723	11,709,639	3.7	9,039	8,696	14,937	15,144	d1.4	813	773	5.2
Total, Allegheny Region (x)	12,833	12,742	5,526,207	5,494,788	0.5	13,891	13,911	5,850	6,075	d3.7	945	904	4.5
Total, Pocahontas Region	4,791	4,770	2,319,979	2,271,054	2.1	15,619	15,357	1,908	1,927	d1.0	1,216	1,178	3.2
Total, Southern Region	37,287	37,322	4,417,055	4,145,128	6.6	3,821	3,584	8,214	8,226	d0.1	538	504	6.7
Total, Northwestern Region	47,191	47,138	6,024,405	5,583,558	7.9	4,118	3,820	8,314	8,591	d3.2	725	650	11.5
Total, Central Western Region	51,490	51,550	6,743,573	6,505,856	3.7	4,224	4,073	10,712	10,945	d2.1	630	595	5.9
Total, Southwestern Region	31,733	32,032	2,372,620	2,514,060	d5.6	2,412	2,532	4,908	5,167	d5.0	483	487	d0.8
Grand Total, All Regions (x)	228,665	228,990	39,548,562	38,224,083	3.5	5,579	5,385	54,843	56,075	d2.2	721	682	5.7

Railroad	Freight car miles (thousands) Loaded			Empty			Total			Net ton miles per loaded car mile		
	This year	Last year	Per ct. change	This year	Last year	Per ct. change	This year	Last year	Per ct. change	This year	Last year	Per ct. change
Total, New England District	39,099	42,995	d 9.1	16,132	17,414	d7.4	55,231	60,409	d8.6	24.8	21.7	14.3
Total, Central District	237,610	242,761	d 2.1	107,324	97,307	10.3	344,935	340,068	1.4	29.8	27.8	7.2
Total, Ohio-Indiana District	125,804	126,987	d 0.9	56,026	48,004	16.7	181,830	174,991	3.9	32.6	31.6	3.2
Grand Total, Eastern Region	402,513	412,743	d 2.5	179,482	162,725	10.3	581,996	575,468	1.1	30.2	28.4	6.3
Total, Allegheny Region (x)	148,002	153,720	d 3.7	78,731	75,701	4.0	226,733	229,421	d1.2	37.3	35.7	4.5
Total, Pocahontas Region	55,643	59,071	d 5.8	36,557	34,739	5.2	92,200	93,810	d1.7	41.7	38.4	8.6
Total, Southern Region	165,943	169,567	d 2.1	74,235	66,377	11.8	240,179	235,844	1.8	26.6	24.5	8.6
Total, Northwestern Region	213,275	212,966	0.1	92,079	76,239	20.8	305,352	289,205	5.6	28.2	26.2	7.6
Total, Central Western Region	250,404	262,396	d 4.6	122,980	96,034	28.1	373,384	358,430	4.2	26.9	24.8	8.5
Total, Southwestern Region	98,001	109,768	d10.7	45,661	39,162	16.6	143,662	148,930	d3.5	24.2	22.9	5.7
Grand Total, All Regions (x)	1,333,779	1,380,131	d 3.4	629,725	550,977	14.3	1,963,506	1,931,108	1.7	29.7	27.7	7.2

Railroad	Average number of freight cars on line daily: Serviceable		Total			Per cent unserviceable		Per cent loaded to total car miles			Car miles per car day			Net ton miles per car day		
	This year	Last year	This year	Last year	Per ct. change	This year	Last year	This year	Last year	Per ct. change	This year	Last year	Per ct. change	This year	Last year	Per ct. change
Total, New England District	85,832	104,693	91,796	109,931	d16.5	6.5	4.8	70.8	71.2	d0.6	19.4	17.7	9.6	340.4	273.7	24.4
Total, Central District	375,324	408,389	400,596	433,177	d7.5	6.3	5.7	68.9	71.4	d3.5	27.8	25.3	9.9	569.9	503.3	13.2
Total, Ohio-Indiana District	234,026	252,795	253,045	272,443	d7.1	7.5	7.2	69.2	72.6	d4.7	23.2	20.7	12.1	522.5	475.8	9.8
Grand Total, Eastern Region	695,182	765,877	745,437	815,551	d8.6	6.7	6.1	69.2	71.7	d3.5	25.2	22.8	10.5	525.6	463.2	13.5
Total, Allegheny Region (x)	352,947	377,694	379,330	398,892	d4.9	7.0	5.3	65.3	67.0	d2.5	19.3	18.6	3.8	469.9	444.3	5.8
Total, Pocahontas Region	87,963	84,022	93,160	88,935	4.8	5.6	5.5	60.4	63.0	d4.1	31.9	34.0	d6.2	803.4	823.8	d2.5
Total, Southern Region	277,266	247,142	290,671	256,711	13.2	4.6	3.7	69.1	71.8	d3.8	26.7	29.6	d9.8	490.2	520.9	d5.9
Total, Northwestern Region	351,034	319,175	373,520	339,788	9.9	6.0	6.1	69.8	73.6	d5.2	26.4	27.5	d4.0	520.3	530.1	d1.8
Total, Central Western Region	328,565	t	348,750	331,767	5.1	5.8	5.7	67.1	73.2	d8.3	34.5	34.9	d1.1	623.7	632.6	d1.4
Total, Southwestern Region	183,817	161,473	190,305	174,279	9.2	3.4	7.3	68.2	73.7	d7.5	24.4	27.6	d11.6	402.2	465.3	d13.6
Grand Total, All Regions (x)	2,276,774	t	2,421,173	2,405,924	0.7	6.0	5.6	67.9	71.5	d5.0	26.2	25.9	1.2	526.9	512.5	2.7

d Indicates decreases. a Less than one-tenth of one per cent. Estimated. x Excludes Huntingdon & Broad Top Mountain, account incomplete information. t Information incomplete.



Government Lumber to Be Sold

The War Department has created a special agency, with a director of sales, to dispose of vast quantities of timbers and other wood products which were on hand at various cantonments and building projects throughout the United States at the time the armistice was signed. The sudden ending of the war, when all this work for the government was under way, for a time threatened to create a serious disturbance in the market.

The director of sales will confer with committees representing industries affected by the disposal of different kinds of supplies, in order that business conditions may be disturbed as little as possible under the circumstances.

Percentage of Increase or Decrease in Factors Influencing Freight Train and Freight Car Efficiency, Month of October, 1918, Compared with the Same Month of 1917.

TEN MONTHS ENDED OCTOBER 31, 1918, COMPARED WITH SAME PERIOD OF PREVIOUS YEAR

Railroad	Average miles of road operated		Net ton miles, revenue and non-revenue (Thousands)			Net ton miles per mile of road per day		Train miles (Thousands)			Net ton miles per train mile		
	This year	Last year	This year	Last year	Per ct. change	This year	Last year	This year	Last year	Per ct. change	This year	Last year	Per ct. change
Total, New England District	8,005	7,994	9,564,404	9,024,400	6.0	3,930	3,713	22,298	22,430	d0.6	429	402	6.7
Total, Central District	21,123	21,172	64,435,073	62,351,207	3.3	10,034	9,687	77,258	80,285	d3.8	824	777	7.3
Total, Ohio-Indiana District	12,934	12,942	33,590,275	33,971,231	d1.2	8,542	8,635	43,345	46,321	d6.4	775	733	5.7
Grand Total, Eastern Region	42,061	42,108	107,589,751	105,346,838	2.1	8,414	8,214	142,902	149,036	d4.1	753	707	6.5
Total, Allegheny Region	14,133	14,235	55,847,760	57,718,424	d3.2	12,999	13,338	62,984	66,743	d5.6	887	865	2.5
Total, Pocahontas Region	4,950	4,865	22,298,005	22,228,634	0.3	14,815	15,029	19,334	19,588	d1.3	1,153	1,135	1.6
Total, Southern Region	37,422	37,356	43,028,278	40,092,412	7.3	3,782	3,530	85,435	80,036	6.7	504	501	0.6
Total, Northwestern Region	46,887	46,722	50,468,398	49,091,997	2.8	3,540	3,456	76,360	78,467	d2.7	661	626	6.0
Total, Central Western Region	51,376	51,259	61,963,654	59,475,175	4.2	3,967	3,817	99,903	102,943	d3.0	620	578	7.3
Total, Southwestern Region	31,861	31,936	24,659,548	25,023,961	d1.5	2,546	2,577	49,312	50,877	d3.1	500	492	1.6
Grand Total, All Regions	228,690	228,488	365,855,394	358,977,441	1.9	5,262	5,168	536,230	547,690	d2.1	682	655	4.1

Railroad	Freight car miles (thousands) Loaded			Empty			Total			Net ton miles per loaded car mile		
	This year	Last year	Per ct. change	This year	Last year	Per ct. change	This year	Last year	Per ct. change	This year	Last, year	Per ct. change
Total, New England District	405,457	438,832	d 7.0	172,885	172,418	0.3	578,342	611,250	d5.4	23.6	20.6	14.6
Total, Central District	2,218,816	2,365,540	d 6.2	1,052,427	1,027,888	2.4	3,271,243	3,393,428	d3.6	29.0	26.4	9.8
Total, Ohio-Indiana District	1,046,388	1,162,946	d10.0	483,019	474,839	1.7	1,529,407	1,637,785	d6.6	32.1	29.2	9.9
Grand Total, Eastern Region	3,670 661	3.967,318	d 7.5	1,708,330	1,675,145	2.0	5,378,992	5,642,463	d4.7	29.3	26.6	10.2
Total, Allegheny Region	1,568,753	1,720,393	d 8.8	854,712	852,467	0.3	2,423,466	2,572,860	d5.8	35.6	33.5	6.3
Total, Pocahontas Region	556,806	583,560	d 4.6	3 2,751	346,869	7.5	929,557	930,429	a	40.0	38.1	5.0
Total, Southern Region	1,681,000	1,681,145	a	767,096	701,686	9.3	2,448,098	2,382,832	2.7	25.6	23.8	7.6
Total, Northwestern Region	1,836,513	1,909,803	d 3.8	771,899	736,667	4.8	2,608,412	2,646,470	d1.4	27.5	25.7	7.0
Total, Central Western Region	2,291,140	2,434,649	d 5.9	1,046,883	994,006	5.3	3,338,023	3,428,655	d2.6	27.0	24.4	10.6
Total, Southwestern Region	990,504	1,078,788	d 8.2	423,025	415,947	1.7	1,413,529	1,494,735	d5.4	24.9	23.2	7.3
Grand Total, All Regions	12,595,377	13,375,656	d 5.8	5,944,696	5,722,787	3.9	18,540,077	19,098,444	d2.9	29.0	26.8	8.2

Railroad	Average number of freight cars on line daily: Serviceable		Total			Per cent unserviceable		Per cent loaded to total car miles			Car miles per car day			Net ton miles per car day		
	This year	Last year	This year	Last year	Per ct. change	This year	Last year	This year	Last year	Per ct. change	This year	Last year	Per ct. change	This year	Last year	Per ct. change
Total, New England District	101,466	103,486	107,129	109,404	d2.1	5.3	5.4	70.1	71.8	d2.4	17.8	18.4	d3.3	293.7	271.3	8.3
Total, Central District	417,409	420,384	441,607	445,997	d1.0	5.5	5.7	67.8	69.7	d2.7	24.4	25.0	22.4	480.0	459.9	4.4
Total, Ohio-Indiana District	206,526	218,060	225,992	235,474	d4.0	8.6	7.4	68.4	70.9	d3.5	22.3	22.9	d2.5	488.9	474.6	3.0
Grand Total, Eastern Region	725,400	741,932	774,727	790,876	d2.0	6.4	6.2	68.2	70.3	d3.0	22.8	23.5	d3.0	456.8	438.2	4.2
Total, Allegheny Region	408,933	390,608	435,823	410,766	6.1	6.2	4.9	64.7	66.9	d3.3	18.3	20.6	d11.2	421.5	462.2	d8.8
Total, Pocahontas Region	83,450	77,458	87,242	81,481	7.1	4.3	4.9	59.9	62.7	d4.5	35.2	37.4	d5.9	844.0	897.4	d6.0
Total, Southern Region	272,533	223,927	286,054	236,758	20.8	4.7	5.4	68.7	70.6	d2.7	28.2	33.1	d14.8	494.5	557.0	d11.2
Total, Northwestern Region	309,732	320,353	330,721	341,247	d3.1	6.3	6.1	70.4	72.2	d2.5	25.9	25.5	1.6	502.0	473.2	6.1
Total, Central Western	317,437	t	335,468	319,425	5.0	5.4	6.0	68.7	71.0	d3.2	32.7	35.3	d7.4	607.6	612.5	d0.8
Total, Southwestern Region	175,371	162,944	181,913	171,195	6.3	3.6	4.8	70.1	72.2	d2.9	25.6	28.7	d10.8	445.9	480.8	d7.3
Grand Total, All Regions	2,292,856	t	2,431,947	2,351,749	3.4	5.7	5.7	67.9	70.0	d3.0	25.1	26.7	d6.0	494.9	502.1	d1.4

Shall American Railways Be Prussianized?*

Frank Discussion of Mr. McAdoo's Proposal With Practical Suggestions for Regulation of Roads

By Alba B. Johnson
President, Baldwin Locomotive Works

IT IS MY ASPIRATION and hope to emulate the wisdom of that sagacious leader who served us so long and so well as President, my honored predecessor and loyal friend, Mr. Post. Some of my official colleagues have commended to me one of Mr. Post's customs, which was to supplement the addresses of distinguished guests at our dinners in New York by some remarks of his own by way of expressing in a special way sentiment or opinion in the railway supply guild. A part of what I might say would have particularly to do with the phases which have just been dealt with so vigorously and clearheadedly by this statesman in business. Other speakers are to follow, eminent travelers, lately home from Europe, and I am sensible of the obligation of a toastmaster to temper ambition with mercy; but in order to preserve the continuity of your thought I ask pardon for saying what I have to say, as briefly as I can, at this juncture.

There is only one time when the optimist looks more foolish than when he is predicting, and that is when his prediction has come out wrong. I am an incorrigible optimist, but a chastened prophet. Nevertheless, it is only veracious to report that for the present at least it is apparently not going to be necessary to repeat the sound money campaign of 1896 in order to prevent the adoption of government railway operation. Suppose you were to call for debate on the question, "Resolved, That American railways should be Prussianized." In their present frame of mind, I believe, a majority of Americans would take the negative. This is much more than merely turning the general unpopularity of a people against one of their particular institutions. There is a peculiarly Prussian and offensively Prussian thing about state railways. They typify the substitution of a government bureau for the individual citizen in performing a function which ought to be regulated, and which cannot be regulated when the government itself performs it. Prussian state railways are a chapter in despotism. Apparently our people generally are in no mood for trial of it here. This seems to apply to the proposed five-year trial. There have in the past been those who advocated trial marriages. The idea has encountered obstacles, one of which, I suspect, is the fear lest when, at the conclusion of the period nominated in the bond of union pro tem, the experimental pair issued forth from the connubial laboratory one of them might prove to have been damaged. There is, I think, some apprehension that even a five-year test might take some of the bloom off Miss Democracy, whom our boys have just been fighting and dying to preserve.

For practical men, therefore, the profitable object at this time upon which to expend thought and energy is the specific problem which must be solved in restoring the roads to individual operation.

Especially to those in our line of business, but in great degree to everybody, a problem of immediate urgency is that of railway improvements during the period while Congress is considering permanent railway legislation. Mr. McAdoo, in suggesting the five-year extension, says that the government cannot operate the roads under the present Control Act, and particularly it cannot carry through a program of additions and betterments. It has seemed to us that if amendments to the Control Act could be drawn which would permit a reasonable annual program of improvements for five years an amendment could be drawn which would accomplish the same purpose annually for two years. One difficulty about additions and betterments under government control is the question of requiring corporations to pay for goods which they did not choose and at prices which they did not negotiate. That issue is now in the courts. Why is it necessary or desirable to await the long-drawn-out processes of litigation? Why cannot all concerned get together in a businesslike way and adjust the situation to a fair and practicable basis? This ought to be possible.

As to price, there has of course been no profiteering by railways. They carried a larger volume of traffic in 1916 and 1917 than previously, but could not and did not raise, as did manufacturers, merchants and labor, the price of what they had to sell. The director general raised rates, but the railroad corporations never had a penny of that; their present income is the standard return based on net income of three years ending 1917. Granted that the government ought to avoid possessing itself of any railway equipment whatever, and that therefore the corporations should be steadily augumenting their plant, the amount charged to them on account of this should be computed by making an appropriate deduction from the prices paid by the government and letting the government absorb the difference as part of the cost of the war.

It may well be asked whether with an enlarging plant the standard income guaranteed to the roads should remain unchanged. Probably the money for improvements would be borrowed from the government. Upon such borrowings interest must be paid. Where is it coming from? It ought to come from increased income made possible by the enlargement of plant. But such increased earnings accrue to the government. Some equitable adjustment is called for under which the proposed obligations to the government may be provided for not only as to interest but as to sinking fund. A part of this provision by the government may be termed cost of the war and a part cost of past regulation.

Design of equipment also complicates this branch of the subject. The standard rolling stock has not been eagerly welcomed by railway corporation officers. Quantity is also an issue and might remain one if an ambitious program were entered upon. He who pays, the railway officers think, should choose what he will buy, how much and when. Why not let the corporations initiate the improvements in budgets to be submitted to the director general for approval? Their obligation could be made plain to plan terminals, extra tracks and other fixed facilities on a basis of joint use and avoidance of duplication. This would be a step toward resumption of operation by the corporations; it would tend to mitigate a too rigid standardization in favor of consideration for local needs, and it would get us accustomed to a formal periodical survey ahead with provision for estimated needs.

Meantime what shall follow the present government control?

* Presidential address at ninth annual dinner of the Railway Business Association, Hotel La Salle, Chicago, Thursday evening, January 9, 1919.

Shall what President Wilson calls the "new element of policy"—an affirmative purpose of transportation development—be passed to the Interstate Commerce Commission to be carried out, including the co-ordination of rates with expenses, or shall a new federal office be created to perform the affirmative function?

The Commission enjoys a peculiar prestige for honesty and freedom from influence. The very defect which is now seen to call for correction, namely, the past attitude maintained by the Commission as a defender of shippers and others as against the roads and nothing more, has given it the character of a popular champion. Castigation of financial practices in the cases of some roads has strengthened this sentiment.

Large numbers of shippers and shippers' bureaus have, through their traffic managers, for several years gone along with the Commission in defining what has been called scientific rate-making and in gradually bringing the actual rate fabric into harmony with such definition. This process has involved the relation of one rate to another, as affecting competitive conditions, the distribution of the burden of transportation cost fairly among the several commodities, the development of standard comparisons for measuring reasonableness of particular rates, and the evolution of precedent covering a number of other technical branches of the subject. Traffic managers are complaining that the United States Railroad Administration has rapidly and substantially undone much of this work. The director general in practice makes the rates and the Commission in practice has refrained from reviewing them except in case of discrimination.

War-time experience with division of the rate-making function between two departments of the government has thus complicated the acceptance of a plan under which such division would be perpetuated. Manufacturers and merchants generally, as a matter of judgment in the choice of men for constructive functions, would greet without enthusiasm or confidence the designation of the Interstate Commerce Commission by Congress as the agency to reestablish railway credit. They as shippers will no doubt take the view, as sometimes in the past in large-rate advance cases, that the paramount matter is sufficiency of facilities and service and extension of lines, and that the problems of scientific rate-making, however important in themselves, can only receive such consideration as is consistent with attaining that paramount purpose.

Executives of industrial and mercantile concerns, if they give their energies to this problem, will undoubtedly come to concur in recommending that a new federal officer charged with promoting transportation development shall have power to sanction rates initiated by carriers, subject to review by the Interstate Commerce Commission respecting discrimination, but on no account subject to reviews respecting the adequacy of revenue. The same shippers, on the other hand, will be sure to insist, and ought to insist, that in preserving this great and vital advantage learned from government control, of lodging in one place responsibility alike for adequacy of transportation and adequacy of rates, the development of symmetrical rate structures should proceed with as little interruption as may be.

The Chicago Association of Commerce is studying the larger phases of railroad legislation through a special committee, separate from the traffic department, which has a restricted scope. Why would it not be advantageous for that organization to suggest a similar method to other local bodies throughout the country and establish among them co-ordination of study and of public discussion? Valuable aid can be given to such a concert of shippers by the National Industrial Traffic League. What shippers most need is skilled service in accomplishing, with the least loss of advantages, the rehabilitation of railway credit. The problem upon which the shippers' traffic managers have a competence all their own is that of transferring jurisdiction over revenue adjustments from the Interstate Commerce Commission to another federal functionary and preserving rate relations in the process. The question is not why this cannot be done, but how it can be done.

Whether the new functionary should receive from the Interstate Commerce Commission advice growing out of its past work in that special field or whether he should have a rate bureau of his own, or whether he should share with the Commission the use of a federal bureau of railway economics, I do not undertake to suggest. Whatever the choice, he should have the last word except as to discriminations. To mean anything, the opinion of the shipping interests of the country must be formed by a process of conference in which there is participation both by traffic managers and by the heads of the enterprises and associations who employ them.

Close to the question of power over rates, as affecting revenue, is another question which is not going to be solved by whispering "Hush!" That is the problem of labor cost. Under any program which gave a federal officer responsibility for sanctioning railway budgets and the rates on which to carry them through, one item—the largest item—would be the pay-roll.

What real difference is there between the labor item and any other item so far as concerns the process of getting it sanctioned and the money provided? The government, which is going to permit the required rate schedule, would say to the railway company: "You may build that extension and not this; you may electrify between A and B, but not yet between B and C." Why should not the government say, "You may grant this demand of labor but not that"? It is a part of the budget. The public is going to pay and some representative of the public must consent or refuse or modify.

What representative? Some suggest a court. But no labor court would command the respect that our law courts command unless there were a statute framed for all men that the court shall apply to particular cases; and I apprehend you and I would be hard put to it if asked to draw, at the present time, statutory language setting forth a general rule for the treatment of labor. That is a long way off. But suppose you had a court. It would not be the regulator of the roads on the side of adequacy and growth. The fixing of wages and working conditions is an administrative function which cannot be performed except with responsibility in connection with revenue. The federal officer might have advisers. Mr. McAdoo had. But in the end it was Mr. McAdoo who decided and proclaimed payrolls. He happened to be the manager, because it was government operation. The analogy under private control is that the payroll should be initiated by the manager of the road, and that because of the public character of the enterprise an appeal could be made either by employees or by members of the rate-paying and service-seeking part of the public; then, finally, the whole public, through its government officer, after he had taken advice, would decide and proclaim.

The difference between payrolls and other expenses is that employees can threaten to interrupt service. Suppose Mr. McAdoo had been deciding and proclaiming reductions instead of advances. That attitude and conduct of organized labor toward methods of adjusting disputes will be determined by public opinion in the communities where the employees live and where their work is done. If public opinion in the United States has developed to the point of favoring adjustment through umpires such opinion will become known to Congress, and the result in legislation will correspond. If public opinion is not ready for adjustment through umpires then some other contrivance may be set up, but it will not be a solution. The only real solution is to couple power with

responsibility somewhere and abide by the action of the constituted authority.

A consideration follows this so inevitably that it ought not to have to be stated. The federal officer who determines transportation budgets, including payrolls, and finds the money, should be kept out of politics so far as is humanly possible.

By the same token, private management must be held to strict accountability. I can think of only two things worse for the United States in transportation than to have a Kaiser bureau. One would be private management operating without the restraint of government regulation. Abuses growing out of unrestricted private management we had for a long while. That sort of thing is no more wanted now by railway managers than by the public. The other thing in transportation that I would think worse for democratic America than a Kaiser bureau would be government operation. The Kaiser had at least a continuous tenure of office and a motive for considering the future prosperity of his country. The statesman does not know whether he is going to be re-elected or not. He takes no chances with any remote future. He wants to do something and do it now; and if he makes a mistake he is only one of a houseful, no man of whom we can hold responsible. You can't regulate him, because of course no commission that you could set up would criticise another department of the government. During the past year we have seen an example. The Railway Control Act gave the executive authority to raise the rates, subject to review by the Interstate Commerce Commission. You have noticed how heroically that body has resisted temptation to exercise any such power.

There seems to be in Congress some sentiment for the enactment of provisions which their advocates believe would be in the direction of stricter regulation, but which would actually have the effect of throwing regulation out of the window. There is talk of government directors of railway corporations. Just as surely as Congress puts one government representative on a railroad board we shall see the beginning of the end of regulation. You will never hold private management to accountability if there is a government man in there consenting to everything and a party to everything before it is done. You will never get a regulatory body to criticise an institution which is partly or wholly another department of the government.

Government directors on boards would mean government influence in the selection of managers and in the framing of policy. The American system is that a boy starts at the bottom and without political services or pull works his way upward through a career, perhaps to the top. Instead of that we would have politics.

Why are government directors proposed? Because government guarantee of interest or dividends is proposed. If the government owns railroad securities or guarantees them it will insert its tentacles into the management. But why is there talk of guarantee? Simply and solely because it is feared Congress will run away from its plain duty of providing revenue which will enable the roads to finance themselves independently. If we do not have responsible regulation and the government furnishes its credit the cost must either be assessed after all upon the users in rates or upon all the citizens in the tax levy. If we have responsible regulation we shall not need government guarantees and we shall escape government directors and the government hand on the management.

We in the United States are slow to make up our minds that an annoyance has attained to the stature of an evil and is worth ending. When we once resolve, however, that a problem is due for solution we move on its works with all arms and take it by storm. How many weary years we bore an antiquated banking and currency system! Yet the hour struck, and in a few months of a single year we established the strongest system in the world. The most hopeful sign that the moment is at hand for a transportation solution is that the subject is on the lips of almost every man you meet. Congress has at last grappled seriously with it. The lawmakers are entitled to the fullest co-operation of business men in working out a measure. Let business organizations and men of affairs in every State and community approach the subject with open minds, a spirit of team work, and a readiness to make sacrifice of time and energy, and our railways shall soon once again build up the cities and carry settlement and commerce into the forest and the inaccessible farm land, while they join every centre of American production and trade to the ships that shall carry the Stars and Stripes and American cargoes to the markets of the earth.

Orders of Regional Directors

UNIFORM METHOD OF HANDLING HOG SHIPMENTS.—In Supplement 1 to Circular 224 the Central Western regional director quotes a letter from the Car Service Section containing additional information concerning the uniform method of handling hog shipments to market centers recently inaugurated. The letter is in part as follows:

Hog embargoes now prevail at Cincinnati, Indianapolis, Pittsburgh, St. Louis, Milwaukee, Sioux City, South St. Paul and Buffalo. The Food Administration states that the total hog receipts by cars on a single deck basis should be as follows per week of six working days:

Name of market	No. of cars	Name of Food Admin. chairman
Chicago	4,140	.....
Cleveland	400	W. L. Bryans.
Indianapolis	1,000	W. A. Cowan.
Pittsburgh	325	J. N. Burgess.
Nashville	200	F. L. Murray.
Buffalo	600	S. M. Boren.
Cincinnati	480	Fred C. Edmonds.
Louisville	175	W. D. Carrithers.
East St. Louis	1,000	H. R. Ray.
Peoria	240	.....
Evansville	48	J. F. Recknor.
Toledo	90	I. C. Dresser and W. W. Jones.
St. Joseph	1,000	Warren Nichols.
Omaha	1,200	E. H. Schroer.
Sioux City	600	Y. A. Hartman.
Kansas City	1,300	B. R. Bridgford.
Milwaukee	350	J. W. Holmes.
Cudahy, Wis.	480	.....

The terminal manager or any other designated representative of the Railroad Administration should confer with the chairmen of the sub-committees of the Stabilization Committee of the Food Administration mentioned above, concerning the division which should be made as between Saturday and other days of the week. Ordinarily the Saturday run should be less than on the other week days.

Insurance on Stationary Boilers.—In Circular 154 the Southwestern regional director points out that the railroads, under the instructions of General Order 24, did not renew insurance on stationary steam boilers. He advises that provision has been made for the inspection and testing of stationary steam boilers heretofore performed by the insurance companies, and rules and regulations have been issued by the Division of Operation, Mechanical Department, under Circular 11, for the information of each railroad.

Taking up of Industrial or Other Sidetracks.—The Eastern regional director, file 1800-4-7A390, has issued the following instructions: "Owing to the shortage of rail for new sidetracks, repair purposes, etc., it is understood that instructions have been in effect on some lines to take up industrial tracks or other side-tracks which have served the purpose for which they were constructed, and which are no longer needed, in order to provide material for such purposes. As the emergency which required such action no longer exists, it should be understood that it is not intended that any tracks should be taken up without the consent of the corporation in writing, except, of course, tracks which have been laid since federal control to serve some temporary need."

Joint Superintendents of Telegraph.—The Eastern regional

director, file 801-1A375, transmits the following instructions from the Division of Operation:

"I believe it desirable that the superintendents of telegraph of the different railroads, especially those who jointly represent the telegraph companies, be instructed that so far as concerns their handling of the telegraph lines owned, leased, or operated by the railroads they must not permit any instructions that they may receive from the officials of the telegraph companies to interfere with the instructions issued by representatives of the Railroad Administration. It is, of course, understood that if a superintendent of telegraph feels that a contract provision between the railroad and the telegraph company is being violated, it will be proper for him to call the matter to the attention of the railroad officer to whom he reports, after which he will be guided by the instructions of such officer."

Freight Destroyed or Confiscated in Transit.—The Eastern regional director, file 600-102A377, states that shippers and consignees of freight frequently suffer inconvenience due to the lack of information as to the whereabouts of their property when it is destroyed by wreck, fire or other casualty, or is confiscated by carrier. Please arrange a plan in such cases so that the operating department will immediately notify the freight claim agent, furnishing full waybill reference, name and address of shipper, consignee and a description of the freight destroyed or confiscated. Upon receipt of such advice in the claim office, arrangements should be made immediately to notify the shipper and consignee to enable them to make such arrangements as they see necessary under the circumstances, either by duplication of the shipment or otherwise.

Inspection of Freight at Interchange Points.—Circular 155 of the Southwestern regional director, similar to File No. 600-96A337 of the Eastern regional director, abstract of which appeared in the *Railway Age* of January 3, page 106.

Exchange of Local Transportation.—Supplement 15 to Circular 29 of Central Western regional director, similar to File No. 2100-41A-343 of Eastern regional director, published in *Railway Age* of January 3, page 105.

Free Transportation for Railroad Y. M. C. A.—In Supplement 13 to Circular 29 the Central Western regional director announces that the Division of Operation will issue transportation for the international traveling railroad secretaries of the Y. M. C. A. who may be assigned to territorial districts similar to that of the railroad regions. Railroads are also authorized to continue their past practice in the matter of issuing transportation for state or local secretaries.

Transportation of Corporation Officers and Employees.—In Supplement 14 to Circular 29 the Central Western regional director announces that railroads are authorized to issue 1919 annual or trip passes to corporate officers and employees over the railroads with which they are connected. The usual complimentary passes for wives and dependent members of families of such officers and employees may also be issued over the railroads with which they are connected. Annual passes for directors and such off-line annual or term passes as the officers and employees of the corporations may require, will be issued by the director of the Division of Operation. Off-line trip passes for corporate officers and employees will be requested of and secured by the federal manager.

Doings of the United States Railroad Administration

Director General McAdoo Has Left Washington for Three Months' Vacation in California

WASHINGTON, D. C.

DIRECTOR GENERAL MCADOO left Washington on Tuesday night for three months' vacation with his family at Santa Barbara, Cal., without having heard from President Wilson as to the appointment of his successor. He issued a statement saying he expected the President would designate his successor as director general of railroads within the next few days and that meanwhile he will continue to discharge the responsibilities of the office. Assistant Director General Walker D. Hines will be in immediate charge at Washington and Mr. McAdoo will continue to keep in touch with and direct the affairs of the Railroad Administration at long range. He was accompanied to California by Oscar A. Price, assistant to the director general. As to his future plans, Mr. McAdoo said he expected to take up his residence in New York City about the first of April and to resume the practice of law.

On Tuesday afternoon Mr. McAdoo called a special meeting of his railroad staff and, saying that he expected to be relieved of his office shortly, made a farewell speech, in which he expressed the highest appreciation of the work of his assistants during the year and their loyal support and cooperation. Walker D. Hines and John Skelton Williams spoke in reply.

It is believed in Washington that Congress will take no definite action at the present short session as to the disposition of the railroads, least of all in the direction of Mr. McAdoo's proposals for a five-year extension of federal control, and that as soon as this fact is made certain at the expiration of the present session, the President intends to issue a proclamation that he will restore the roads to their owners after a reasonable period for readjustment. June 30 is suggested as the probable date, because this would conclude a six months' period and would be convenient for accounting purposes. On the other hand, Congress might intervene to prevent a relinquishment of the roads without a longer opportunity to work out a legislative plan.

Most of the members of the staff of the Railroad Administration seem to expect that its affairs will be wound up shortly. No action is being taken, pending the appointment of a new director general, to fill the vacancies in the staff caused by resignations. The Railroad Administration has definitely released to the Treasury Department the space which it had planned to occupy in the new Arlington Building, although it is looking for other quarters than the Interstate Commerce Building, in which its principal offices are now located.

Weekly Traffic Report

The movement of freight and passenger traffic for the week ended January 6 continued without interruption, according to the weekly report made public by Director General McAdoo. The returns of passenger travel since last week show a much greater increase than was ever anticipated. On account of the holiday season there was a slowing up in the movement of freight cars in some sections.

Following is a summary:

Eastern Region.—Labor troubles at the railroad piers and freight stations in the Greater New York district necessitated shutting off all New York freight on January 1; situation slightly improved. Export freight for Boston also shut off owing to labor troubles and lack of vessels. Trainload move-

ment of export provisions from Western cities running about the same, averaging the last half of December 673 cars in 27 trains daily. High class passenger travel exceptionally good, as indicated by large number of extra Pullman cars required.

Allegheny Region.—Regular passenger travel continues very heavy, but has been generally handled in a satisfactory manner. Perishable freight traffic experiencing a let-up after the holidays. Box car loading has decreased, and it may be necessary to store some empty box cars. Production of bituminous coal continues light, and there is a surplus of empty coal equipment.

Pocahontas Region.—Passenger travel continues heavy. Effective January 1 the White Sulphur Springs and Hot Springs sleeping cars were extended through to New York, and the New Orleans sleeper similarly extended. On and after January 6 all Atlantic Coast Line trains will use the new Broad Street Station at Richmond, Va. General freight movement shows decrease, due in part to the holiday season. Slight increase in total coal and coke movement.

Southern Region.—Heavy passenger travel continues; passenger service being extended in various directions. Freight service has been normal, with the exception of accumulations on the New Orleans Public Belt Railroad, and accumulations of empty coal cars at Birmingham, both of which will be shortly relieved. General freight movement lighter than last week, but heavier than similar week of previous year.

Northwestern Region.—Movement of loaded freight cars shows quite a serious decrease as compared with same period last year, due principally to general slowing up of business account holiday season. Grain arrivals at primary markets at Chicago, Minneapolis, Milwaukee and Duluth, 12,800,000 bu., a decrease of 2,700,000 compared with previous week, but an increase of approximately 8,000,000 bu. over same period last year. Live stock loading shows some decrease under previous week, but was larger than last year. Crop conditions continue unusually satisfactory.

Central Western Region.—Business shows quite a decided falling off compared with last year, with large decreases in coal, as many of the mines are shut down on account of lack of orders. Train operations on the Santa Fe, Rock Island and Union Pacific interfered with by snow and low temperature in Colorado and Kansas. Passenger travel reports indicate that holiday travel was well handled, but on the whole the travel was a little less than during the same season last year. Travel to California is heavy.

Southwestern Region.—Freight traffic comparatively light. Steel people in this district anticipating a heavy demand. General impression prevails that export and import traffic will become heavy during latter part of February. Passenger travel is heavy, stimulated by holiday business. Unprecedented storms in Kansas, Oklahoma and Texas had their natural effect on train service, although the situation is rapidly improving.

War Department.—Freight on hand at New York shows increased accumulation by reason of unloading being seriously delayed account inefficient labor, holidays, and restrictions imposed by eight hour day. Transportation conditions throughout the entire country are, taking into consideration usual slowing up during the holidays, generally satisfactory.

Advances to Railroads for the Year 1918

The total sum advanced to December 31, 1918, by the United States Railroad Administration to all railroads and other transportation properties under government control, including loans made to railroad corporations for current needs and payments on account of compensation, advances made for operating requirements, and the payments made on account of the new standardized cars and locomotives aggregate, according to a statement issued by the director general, $689,034,759.

In making these payments the director general drew on the $500,000,000 revolving fund to the extent of $453,454,810. The balance of the money thus advanced, amounting to $235,579,949, was obtained from the surplus operating receipts of certain railroads and from receipts from the express companies.

The total amount deposited with the director general up to December 31, from the surplus receipts of all railroads and transportation companies under federal control amounted to $270,524,961 which included $46,916,416 received from express companies.

The only railroad properties which have made deposits with the director general of sums aggregating as much as $1,000,000 in excess of the amounts returned to these depositing roads and the corporations by the director general, were the following:

Atch., Top. & Santa Fe.	$12,600,000	Duluth, Missabe & N...	$10,400,000
Elgin, Joliet & Eastern..	7,000,000	Louisville & Nashville...	5,510,000
Bessemer & Lake Erie...	4,000,000	Atlantic Coast Line.....	3,800,000
Duluth & Iron Range...	3,400,000	Pullman Car Line.....	2,800,000
Rich., Fdksbg. & Potomac	1,540,000	Atlantic SS. Lines.....	1,500,000
Pere Marquette.....	1,145,000	Central of New Jersey..	1,250,000
Morgan's, Louisiana & T.	1,300,000	Nashville, Chat. & St. L.	1,000,000

The amounts advanced by the United States Railroad Administration to all transportation systems, making the above aggregate of $689,034,759 up to December 31, 1918, are set forth in the following list:

Pennsylvania Railroad..	$90,066,000	Central New England...	$990,000
New York Central.....	72,720,000	Ind. Harbor Belt.....	920,000
N. Y., N. H. & H.....	65,925,000	Texas & Pacific.....	909,250
Baltimore & Ohio.....	35,875,000	Pere Marquette	855,000
Erie	23,600,000	Ann Arbor	801,800
Chi., Mil. & St. Paul....	22,532,000	Toledo & Ohio Central..	770,000
Illinois Central	17,425,000	Monongahela	750,000
Southern Pacific	16,500,000	Rutland R. R.....	741,000
Union Pacific	13,500,000	Wheeling & Lake Erie...	700,000
Southern Railroad.....	11,706,650	Kans. City, Mex. & Orient	700,000
Chi., Bur & Quincy.....	10,650,000	Atlanta, Birm. & Atlantic	659,000
Chi., R. I. & Pacific.....	9,700,000	Bangor & Aroostook....	643,000
Chi. Northwestern	9,000,000	Ft. Worth & Denver Cy.	619,000
Delaware & Hudson....	8,790,000	Gulf, Mobile & Northern.	600,000
Missouri Pacific	8,400,000	Chi., Peoria & St. Louis.	600,000
Seaboard Air Line.....	8,075,000	N. Y., Ontario & Western	575,000
Chesapeake & Ohio.....	8,050,000	Pittsburgh & Shawmut..	528,500
Boston & Maine.....	7,067,000	Lehigh & New England.	525,000
Great Northern.....	6,800,000	Old Dominion S. S. Line	515,000
Philadelphia & Reading.	6,090,000	Chi. Junction	500,000
St. Louis-San Francisco	6,020,000	Gulf, Colo. & Santa Fe.	500,000
Denver & Rio Grande...	6,000,000	Western Pacific	430,000
Northern Pacific	5,500,000	Kansas City Terminal..	400,000
Norfolk & Western.....	5,250,000	Chi., Terre Haute & S. E.	387,913
Wabash	4,645,000	Pittsburgh & West Va.	375,000
Mo., Kans. & Texas.....	4,245,000	Cin., Ind. & Western...	350,000
M., St. P. & S. S. Marie	4,159,000	Georgia R. R.....	309,000
Buff., Roch. & Pittsburgh	4,000,000	Detroit, Toledo & Iron.	300,150
Del., Lack. & Western..	4,000,000	Bklyn. East. Dist. Term.	300,000
Western Maryland	3,558,000	Belt Ry. of Chicago...	290,000
Lehigh Valley	3,500,000	Midland Valley	270,000
Louisville & Nashville...	3,000,000	Trans-Miss. Terminal ..	265,000
Hocking Valley	2,892,000	Mo., Okla. & Gulf.....	255,000
Chi., St. Paul, M. & O..	2,450,000	S. Antonio & Arans. Pass	253,000
Mlps. & St. Louis.....	2,395,000	Ft. Dodge, D. Moines & So.	246,000
Maine Central	2,130,000	Vicksburg & Shreveport.	242,000
Chicago & Alton.....	2,060,000	Am. Refrigerator Tr. Co.	229,000
Chi., Indianapolis & L...	1,925,000	Chi. & Western Indiana.	215,000
Int. & Great Northern..	1,877,215	N. Y., Susque. & West.	200,000
St. L. Southwestern.....	1,770,000	Gulf & Ship Island....	200,000
Chi., Great Western....	1,680,660	New Or., Tex. & Mexico	176,100
Grand Trunk	1,621,000	Illinois Southern	160,000
Kansas City Southern...	1,585,000	Mo. & N. Arkansas....	150,000
Term. R.R. Assn. of St.L.	1,545,000	Duluth, S. Shore & Atl.	150,000
Colo. & Southern.....	1,485,000	Ocean Steamship Line..	150,000
Central of Georgia.....	1,450,000	Portland Terminal	150,000
Chi. & Eastern Ill.....	1,449,000	Detroit & Toledo Shore L.	135,000
Virginian Ry.	1,300,000	Cumberland & Pa.....	127,900
Cent. R.R. of N. Jersey.	1,250,000	Detroit, Bay City & West.	120,000
Pullman Company	1,200,000	N. O. Great Northern..	120,000
Atlantic Coast Line.....	1,200,000	Atlanta Terminal	115,000
Los Angeles & Salt Lake	1,175,000	Winston-Salem S. Bound	112,000
Denver & Salt Lake.....	1,118,460	Western Ry. of Ala....	110,000
Norfolk Southern	1,058,000	Mississippi Central	102,500
Florida East Coast.....	1,050,000	Ulster & Delaware.....	100,000
Central Vermont	1,035,000	B. & O. Chi. Terminal..	100,000
Hudson & Manhattan...	1,012,000	Toledo Terminal	100,000
N.Y., Chi. & St. Louis..	1,009,775		
Twenty-six roads receiving in each case less than $100,000....			990,000
Advances to inland waterways and canals.....			4,361,486
Payments on account of standardized engines and cars.....			114,514,400
Total			$689,034,759

Of the sums shown in the foregoing table the amounts advanced to the various systems during the month of December, 1918, were as follows:

N. Y., N. Haven & Hart.	$15,475,000	Southern Pacific Lines..	$4,000,000
N. Y. Central Lines....	12,850,000	Chicago & North Western	3,770,000
Pennsylvania R. R. Lines	12,696,000	Norfolk & Western....	2,750,000
Baltimore & Ohio.....	11,800,000	Missouri Pacific	2,750,000
Erie Railroad	9,700,000	Seaboard Air Line.....	2,465,000
Union Pacific Lines....	8,500,000	Hocking Valley	2,392,000
Boston & Maine.....	4,250,000	Minn., St. P. & S. S. M.	2,107,000
Chic., Burl. & Quincy.	4,100,000	Delaware & Hudson....	2,000,000
Great Northern	4,000,000	Chic., Rock I. & Pacific.	2,000,000

Philadelphia & Reading.	$1,690,000	Chicago, P. & St. Louis.	$400,000
Louisville & Nashville..	1,500,000	St. Louis S. Western..	400,000
Northern Pacific	1,500,000	Buff., Roch. & Pittsburgh	330,000
Del., Lack. & Western..	1,500,000	Atlan., Birm. & Atlantic	320,000
Int. & Great Northern.	1,470,000	Bklyn. E. Dist. Terminal	300,000
Central R. R. of N. Jer.	1,250,000	Central Vermont	300,000
Illinois Central	1,200,000	K. C., Mex. & Orient..	300,000
Denver & Rio Grande..	1,200,000	Monongahela R. R.....	300,000
Western Maryland	1,185,000	Wabash R. R.....	300,000
Los Angeles & Salt Lake	1,175,000	Ft. Worth & Denver City	279,000
Southern Railway Lines.	1,164,000	Bangor & Aroostook....	270,000
Grand Trunk	1,000,000	Missouri, Okla. & Gulf..	255,000
Chesapeake & Ohio.....	1,000,000	Gulf, Mobile & Northern	200,000
Chicago Great Western.	973,000	Gulf & Ship Island.....	200,000
Chicago & East Illinois.	912,000	N. Y., Susq. & Western	200,000
Chicago, Mil. & St. Paul	857,000	Ind. Harbor Belt.....	200,000
Maine Central	830,000	M. K. & T. Lines.....	250,000
Pere Marquette	775,000	Old Dominion S. S. Lines	200,000
Toledo & Ohio Central..	770,000	Virginian Railway	200,000
Central New England..	690,000	Texas & Pacific.....	159,250
Kansas City Southern..	525,000	N. Y., Chicago & St. L.	155,000
Colo. & Southern.....	510,000	Missouri & North Ark.	150,000
Gulf, Colo. & Santa Fe.	500,000	Ocean Steam Ship Line.	150,000
Minneapolis & St. Louis	500,000	Denver & Salt Lake....	127,812
Rutland R. R.....	475,000	Winston-Salem S. Bound	112,000
Term. R. R. Ass'n of St. L.	464,000	Norfolk Southern	110,000
Chicago & Alton.....	425,000	Mississippi Central	102,500
Kansas City Terminal..	400,000	Chic., St. P., M. & Oma.	100,000
Atlantic Coast Line.....	400,000	Detroit & Tol. Shore Line	100,000
Chicago, Ind. & Louisv.	400,000	Det., Bay City & Western	100,000

Seventeen railroads receiving sums amounting in each case to less than $100,000	768,375
Payments on account of standardized locomotives and cars	26,799,274
Total of advances to all railroads in the month of December, including payments made on account of new rolling stock for various companies, as shown above	$168,982,711
Total amount received during December from railroads on account of surplus earnings and including $15,781,541 from express companies, was	33,116,985
Excess of advances to railroads for the month of December, 1918, over and above amounts received as above for same period.	$135,865,726

All loans to railroad companies by the Director General have been made at the uniform rate of 6 per cent. per annum interest.

On December 30 and 31 the following railroads repaid to the United States Railroad Administration the following amounts with interest at 6 per cent., which had been formerly loaned them:

Chicago, Milwaukee & St. Paul	$8,000,000
Chicago, Rock Island & Pacific	6,000,000
Baltimore & Ohio	5,450,000
Southern	2,170,000
St. Louis-San Francisco	1,710,000
Total	$23,330,000

Including the amount of these loans thus collected, the total balance remaining in the revolving fund, plus the sum total of balances remaining on hand with the director general from the surplus receipts turned over by certain roads, aggregates the total sum of $102,856,762.

The aggregate amount of loans made by the director general to railroads and other transportation companies, and still outstanding is $171,606,073. This is exclusive of the amount advanced by the director general for the benefit of various roads on account of standardized equipment.

Director General Asserts Authority Over State Rates

Director General McAdoo has taken up the challenge made by various state railroad commissions of his authority to initiate rates applying to intrastate as well as to interstate traffic This question was held in abeyance during the war, but was revived at the annual convention of the National Association of Railway and Utilities Commissioners held in Washington just after the armistice was signed. The director general has heretofore refrained from making a definite statement of his attitude toward the matter, but when his attention was called to the fact that several states have begun litigation, drawing in question the validity of rates initiated by him under the federal control act so far as they apply to intrastate traffic, he issued a statement saying he regretted that the issue should be raised and a contest precipitated between state and federal authority, but that he was acting under the law of Congress as the President's representative and could not subject himself, in that capacity, to the jurisdiction of courts or commissions beyond the provisions of the law.

Considering the purpose for which the statute was enacted, and the extent to which it would be defeated by a division of authority, as well as the terms of the statute itself, there can, in his opinion, be no reasonable doubt that the intention is that during the period of federal control rates may be initiated to apply to both intrastate and interstate business, and that complaints of such rates are exclusively within the jurisdiction of the Interstate Commerce Commission, which can be relied upon to do justice to all interests. Any other construction of the statute might have been fatal to the prosecution of the war, and would now result in creating an indefensible discrimination between interstate transportation charges and state charges, and serious curtailment of the revenue which the Railroad Administration must have in order to perform the duties placed upon it by Congress.

The director general pointed to the fact that the correctness of this position seems to be conceded in many of the states where no question is made as to the power vested in the President to initiate rates applicable to intrastate business, and as to those rates being beyond the jurisdiction of the state authorities.

He expressed the hope that the states which have brought suits based upon the opposing contention may for the present at least hold them in abeyance. If such suits are pressed, he said, the government, although it desires to give the most respectful consideration to the views of the state authorities, has no alternative except to proceed upon the theory that the action of the President's representative in establishing rates is not within the jurisdiction of either state commissions or courts, and that orders prescribing rates instead of those which have been initiated, and injunctions forbidding the application of the initiated rates to state shipments cannot be observed as to railroads under federal control.

If the government is compelled to engage in a legal contest, he said, no other position can be taken, and there is no other course that will protect the general public interest.

Aside from the provisions of the statute which empower the President to initiate rates without distinction as to interstate and intrastate traffic, he said that he could not conceive that any state would be placed at a practical disadvantage, inasmuch as if any such rates are deemed unreasonable or unjust, the state itself, or the commission of the state, or any citizen of the state is free to file a complaint before the Interstate Commerce Commission and have it determined in the light of all of the facts. He reiterated that his concern is not because of any misgiving as to the power of the President under the federal control act, but because of his aversion to the United States government being forced into a contest with any of the states about these matters.

Continued Heavy Car Loading Urged

The Railroad Administration hopes to be able to continue the records for heavy car loading set this year in spite of the fact that it will not have the aid of the power of the Food Administration to force heavy loading of food commodities. The Car Service section recently issued Bulletin No. CS-86, canceling Bulletin No. 41; embodying the United States Food Administration's Rules and Regulations governing the loading of food and feed commodities. The bulletin adds:

"The heavier loading of freight cars, the campaign for which has had the valued aid and support of the several departments of the government, as well as the hearty co-operation of shippers, has been a very material factor in accomplishing the following: 1st—An increased car supply. 2nd—Lessened congestion on the railroads, particularly at terminal points. 3rd—Improved service made possible by such lessened congestion.

"If it be thought that the improved car supply which exists at the present time makes it less necessary to load cars to full capacity, it should be borne in mind that a return to the old practice of light loading would speedily bring about another car shortage and congestion, by reason of the increased number of cars used to carry a given tonnage. Numerous

shippers have volunteered the information that it is their purpose to continue to make the fullest use of equipment, maintaining records established during the war, regardless of tariff minima. They apparently realize the advantages gained, which will prevent useless waste and a return to transportation conditions which formerly prevailed.

"The Railroad Administration will continue its efforts to closely supervise the loading of all commodities, in order that demands for service may be promptly met, and we ask the continued co-operation of all shippers to this end. Reports of all instances of light loading of equipment will be made to the Car Service Section, as heretofore."

The Export Situation

According to the report of the Exports Control Committee for the week ended January 4, made public by Director General McAdoo, there was an accumulation of export freight on hand at north Atlantic, south Atlantic and Gulf ports, due to the slow acceptance of freight by ships on account of the inefficiency of labor during the holiday season and delays to shipping incident to bad weather. The movement of foodstuffs to be sent overseas and used in relief work continued unabated.

The total overseas movement since the signing of the armistice shows a steady increase. It was decided to temporarily suspend loading of all export freight covered by G. O. C. permits destined to Boston, New York and Philadelpia (exclusive of grain to Boston), effective as of the third instant, until further notice.

The total receipts and deliveries at north Atlantic ports for the week ended December 30, was as follows, in carloads:

	(In cars) Received	Delivered
Export freight at North Atlantic ports, exclusive of U. S. government freight, bulk grain and coal....	7,543	5,418
U. S. government freight on railroad operated terminals	3,107	2,862
Total	10,650	8,280

showing an accumulation of 2,370 cars in addition to those reported last week and the week before.

The arrivals of carload export freight at North Atlantic ports (exclusive of bulk grain and coal) during the month of December totaled 50,896 cars, while deliveries were 45,174 cars, resulting in an increase in freight on hand, due to delays to ships on account of severe weather on the Atlantic, necessity for repairs after arrival, and the labor situation.

The total accumulation for all ports, including South Atlantic and Gulf, for week ended December 26, was:

	In cars	In tons
North Atlantic	2,502	67,360
South Atlantic	174	5,460
Gulf	520	24,040
Total	3,196	96,860

This emphasizes the necessity for a strict continuance of the permit system. The average daily delivery of cars of export freight at North Atlantic ports, April to December, 1918, inclusive, was as follows:

Port	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Boston	100	98	76	92	64	26	88	86	90
New York	680	814	845	932	741	712	1,029	1,104	1,141
Philadelphia	105	184	123	128	154	147	150	252	166
Baltimore	124	122	140	156	105	109	113	161	151
Newport News	24	106	104	103	76	147	145	111	79
Norfolk	22	24	63	69	92	107	112	101	92
Total	1,055	1,348	1,351	1,480	1,232	1,248	1,647	1,815	1,719

The estimated tonnage of export freight (including U. S. government freight, but exclusive of bulk grain and coal), disposed of during the month of December, compared with December export tonnage of previous years, is as follows:

With December, 1913, 185.9 per cent increase
With December, 1914, 158.3 per cent increase
With December, 1915, 104.5 per cent increase
With December, 1916, 48.5 per cent increase
With December, 1917, 107.5 per cent increase

Interpretation of Wage Order

Director General McAdoo has issued the following interpretation No. 8 of General Order No. 27:

As there seems to have been a misunderstanding on some railroads as to the application of General Order No. 27, the said order is hereby interpreted to apply to all persons in the employment of the railroads earning less than $250 per month in December, 1915. Where such persons have not been granted the increases provided for in General Order No. 27 such increases will be made applicable retroactive to January 1, 1918, and until superseded by supplements thereto.

New York Central and Other Contracts Signed

Director General McAdoo on January 2 signed the compensation contracts for the various roads comprised in the New York Central system, providing for annual payments as follows: New York Central Railroad, including Toledo & Ohio Central, Zanesville & Western, Kanawha & Michigan, and Kanawha & West Virginia, $58,122,084.92; Cleveland, Cincinnati, Chicago & St. Louis and Muncie Belt, $9,945,738.41; Pittsburgh & Lake Erie, $8,980,219.40; Lake Erie & Western, $1,548,541.69; Cincinnati Northern, $317,628.01; Indiana Harbor Belt, $296,053.57; Michigan Central and Chicago, Kalamazoo & Saginaw, $8,105,727.04; Lake Erie & Eastern, $127,081.06; Detroit Terminal, $186,460.40.

Director General McAdoo, just before leaving for California, also signed the compensation contract of the Pennsylvania Railroad Eastern Lines, including the Baltimore & Sparrows Point, Cumberland Valley, New York, Philadelphia & Norfolk, Union Railway of Baltimore, Barnegat Railroad, Philadelphia & Beach Haven and Rosslyn Connecting. The annual compensation is $53,603,427.

Exchange Transportation

Director General McAdoo has issued Supplement No. 2 to General Order No. 6, extending over the year 1919 the authority to renew contracts between carriers and newspaper publishers providing for an exchange of intrastate railroad transportation for advertising, providing that the rates charged by the publishers shall not exceed their usual commercial rates, that the value of the transportation shall be computed on the basis of normal tariff fare for one way tickets, and that transportation so used shall not be used upon any part of an interstate journey.

Clover Leaf Allocation Suit Not Yet Decided

The United States court at Toledo, in charge of the receivership of the Toledo, St. Louis & Western, has ordered the receiver of the road to accept 350 of the 1,250 standard freight cars allocated to it by the Railroad Administration, but has not yet rendered a final decision on the suit of the stockholders of the road for an injunction. The case was argued on December 30. The order to accept the 350 cars came after that date but was issued pending a final decision on the merits of the case.

Collection of Miscellaneous Rents

P. S. & A. Circular No. 57 provides that miscellaneous rents due to a corporation whose property is under federal control may be collected for it by the employees of the United States Railroad Administration, provided the arrangement is requested by the proper officer or officers of the corporation. In accounting for miscellaneous rents collected at the request of the corporation, the payment of which should be made to it monthly, a charge of 2½ per cent upon the gross collections should be retained by the federal treasurer as compensation for the labor and expense involved. Federal auditors shall account for the amounts retained out of such collections as miscellaneous income.

Proposals for Disposition of the Railroads

McAdoo Argues for Five Year Test—I. C. C. and Railroads Advocate Revision of Regulatory Policy

WASHINGTON, D. C.

DIRECTOR GENERAL MCADOO'S plan for a five years' longer test of government operation of the railroads received some hard knocks during the first week of the hearing before the Senate Committee on Interstate Commerce called to consider proposals for the disposition of the railroads. Mr. McAdoo's prepared statement, which is published elsewhere in this issue, elicited not a word of approval from any member of the committee for the five-year plan, although there was some appreciation of the accomplishments of the Railroad Administration during the past year.

He was followed on Tuesday by E. E. Clark, chairman of the legislative committee of the Interstate Commerce Commision, who presented a statement on behalf of the commission (Commissioner Woolley dissenting), favoring a return of the railroads to private ownership after a reasonable period of readjustment or preparation and after reasonable notice of the date. The commission not only expressed the conviction that "with the adoption of appropriate provisions and safeguards for regulation under private ownership," which it outlined, "it would not be wise or best at this time to assume government ownership or operation of the railways of the country," but it also opposed a return of the properties in a precipitate way and later, in reply to a question, Mr. Clark said Congress ought to withdraw from the President the power he has to return the roads back on an hour's notice, and that Congress ought to say when they shall be turned back. It is understood that a resolution to this effect will soon be introduced in the Senate. The commission's statement and Commissioner Woolley's dissenting opinion are also published elsewhere.

The respect with which the senators listened to such recommendations of the commission as the repeal of the prohibitions against consolidation of competing lines and against pooling, the limitation of unnecessary railway construction and the power to prescribe minimum rates, indicated a growing appreciation of some of the points which have been urged for several years by the railroads and of the difficulties which the railroads have experienced under a system of regulation designed to restrict rather than to encourage and develop. The committee members also manifested some satisfaction that the commission had not agreed with Mr. McAdoo's five-year plan. The commission was very respectful to Mr. McAdoo. Its statement did not even refer to his plan, nor did it express a word of criticism of the Railroad Administration. It merely expressed in unmistakable language the conviction that it would not be wise or best at this time to assume government operation or ownership of the railways. It was not until Senator Watson asked a direct question that Mr. Clark made any reference to the five-year plan, when he said that the commissioners, with the exception of its member who has had the least experience in matters pertaining to railroad regulation, do not think it is a wise plan, and that it would not be desirable to place full authority to run the railroads in the hands of one man.

Opposition to the five-year plan was again expressed by T. De Witt Cuyler, chairman of the Association of Railway Executives, who presented on Thursday a series of principles adopted by the executives of 92 per cent of the country's railway mileage, which they believe ought to form the foundation of the national legislation necessary for the readjustment of the railroads to peace conditions, including provision for the continuance, under private operation, of a large part of the measures taken by the Railroad Administration during the war to co-ordinate and unify railway facilities. The statement of the plan as presented by Mr. Cuyler is printed elsewhere in this issue. He was to be followed by Alfred P. Thom, counsel for the Association of Railway Executives, with a legal argument, while Daniel Willard, Julius Kruttschnitt and S. T. Bledsoe were to present various aspects of the railroad situation.

Mr. McAdoo Questioned by Committee

Director General McAdoo's argument apparently made little impression upon the committee. The questions put to Mr. McAdoo by Senators Cummins, Kellogg and Watson particularly indicated hostility to the idea of a further experiment of government operation and a belief that legislation to improve regulation and to make possible a continuance of some of the advantages of the co-ordination of railroad facilities effected during the past year would present a more satisfactory solution. These Senators and others laid particular emphasis upon the great increase in expenses and the deficit as a result of the year's operations. They also indicated a strong belief that the obstacles which Mr. McAdoo mentioned to successful operation by the government during the 21 months after the war would exist to an even greater extent during a five-year tenure.

Mr. McAdoo expressed a little more strongly than he has heretofore an opinion that a five-year test would lead rather to some plan of private operation under strict centralized control by the government, but persistently declined to consider the possibility of agreeing upon any permanent policy for dealing with the railroads before it will be necessary to relinquish them. Such proposals as a repeal of the anti-trust law and a removal of the various other legal restrictions on the railroads he characterized as merely "palliatives" or "poultices," declaring that what is needed is a comprehensive plan which will consider the entire situation. He would not subscribe to the opinion that a mere removal of restrictions would result in the proper degree of co-ordination, and expressed some doubt as to whether private corporations could be safely entrusted with the degree of freedom of action which he would give to the governmental authority in charge of railroad operations. He said the inability of the railroads to meet the situation in 1917 was due only partly to legal impediments. He was plainly irritated by the line of questions implying criticism of the increase in expenses, attributing them to the conditions created by the war and the necessity for increasing wages.

Mr. McAdoo declared that if the five-year plan is adopted the short lines, which were excluded this year as not being needful or desirable for war purposes, should be included, because the purpose would be to test the whole transportation problem.

Senator Cummins asked Mr. McAdoo whether he proposed to retain the power to nullify laws and to continue to curtail the authority of the Interstate Commerce Commission and state commissions. Mr. McAdoo replied that successful operation could not be obtained without concentration of authority, and that while it might be wise to modify the powers of the President in some details the full benefits of federal control could not be had without retaining them substantially. He declared that the manner in which the rate authority was exercised during the war was

not an indication of the methods to be followed under peace conditions.

Senator Cummins also asked whether the present rate of guarantee to the railroad companies should be continued. Mr. McAdoo said he thought that the country could afford to continue it for a test period. Senator Underwood expressed doubt as to whether the government could keep the railroads for a longer period without paying their value.

When Senator Cummins kept pressing the idea that a legislative solution could be obtained within a year if Congress is allowed time to study it, Mr. McAdoo said he could work out a plan in that time, but doubted whether 600 minds could meet on one. He thought that while the test was being carried on Congress could agree on a permanent plan which would be ready at the end of the period.

Several senators expressed apprehension of grave consequences if the railroads should be returned to their owners too precipitately, on the ground that state rate laws would automatically go into effect and their effect would crumble the interstate rate structure. Mr. McAdoo said he thought the various commissions would recognize the necessity of keeping rates high enough to meet the increased costs, and he scouted the idea that the return of the roads would mean bankruptcy, except in the case of the weaker roads. Senator Cummins said it would be "little less than a crime" to turn back the roads without giving them time to prepare for it. Mr. McAdoo said the roads could be returned in "infinitely better condition on March 1 than they were in March, 1917."

In opposing the idea of continuing government operation through the 21 months' period, Mr. McAdoo said it would be impossible to carry on a program of needed improvements because the corporations, not being particularly friendly to federal control, would not co-operate, but that if assured of a five-year period, and their credit strengthened by a government guarantee, they would realize the necessity of co-operating.

Senator Kellogg brought out the fact that the expenses of the Railroad Administration are not included in the operating expenses of the carriers as reported by the Interstate Commerce Commission. Mr. McAdoo promised to file a statement showing the amount. The senator also pointed out that the corporate expenses were not included in operating expenses in 1918, although they had been previously. Mr. McAdoo said that the operating ratio for several months had been increased by the inclusion of back pay and that for the months of July, August, September and October, since the rate increase, if the back pay is excluded, the operating ratio in 1918 was 67.4, as compared with 67.9 in 1917. He said the force of the central administration at Washington was about 1,100.

Senator Kellogg insisted that the five-year plan would constitute a test of only one system of operation, and would throw no light on other possible plans, while Mr. McAdoo pictured his idea of federal control as a form of protection thrown over the railroads while they were experimenting with various ideas that might later be continued under private management.

"But if Congress turns you down, you have no suggestion to make for legislation to provide proper regulation?" said Senator Watson.

"I have but one suggestion," replied Mr. McAdoo. "I want a test and I must reserve judgment as to a permanent plan until I get further light."

"Suppose the five-year test results in failure," said Senator McLean, "would that demonstrate the failure of government ownership?"

"The five-year test would show something conclusive," replied Mr. McAdoo. "I don't know what."

Senator Kellogg also questioned Mr. McAdoo on the subject of car supply, brining out the fact that only a small percentage of the cars and locomotives ordered in 1918 were delivered. Mr. McAdoo said that effective operation has practically enlarged the supply of cars and that there has been no shortage. Senator Kellogg then filed the following statement from the Interstate Commerce Commission records showing the number of cars and locomotives added and retired each year:

	Freight Cars		Locomotives	
Year	Added	Retired	Added	Retired
1908	17,156	70,776	3,227	1,140
1909	67,925	83,223	1,549	1,333
1910	134,593	75,652	3,073	1,452
1911	125,532	68,031	3,694	1,468
1912	97,972	69,876	2,861	1,858
1913	162,670	96,825	4,381	2,338
1914	150,813	96,985	3,245	1,862
1915	86,012	90,347	1,114	1,507
1916	88,254	109,996	1,475	2,576
	Passenger Cars		Service Cars	
Year	Added	Retired	Added	Retired
1908	2,183	1,630	12,568	5,978
1909	1,786	1,591	7,322	5,341
1910	3,503	1,914	15,033	6,818
1911	1,250	1,701	12,931	6,921
1912	3,080	1,387	10,630	8,800
1913	2,823	1,842	13,014	8,507
1914	3,629	1,854	12,354	8,159
1915	2,664	1,385	10,228	11,787
1916	1,261	2,156	13,086	13,446

Senator Townsend paid a high tribute to Mr. McAdoo's management during the past year, but called attention to the fact that it is proposed to turn the operation of the roads for the future over to an unknown man. When Mr. McAdoo expressed confidence that the right kind of a man would be selected, the senator remarked that "we don't always get them," and said he thought there was no more of a presumption that the right kind of a director general would be chosen than that Congress could enact the right kind of legislation. In concluding his testimony, Mr. McAdoo summed up his argument as follows:

"My judgment is that the American people are entitled to a fair test of federal control under peace or normal conditions. We have spent large sums of money to win the war, and part of that money has been used to gain some experience in the unified operation of the railroads, an experience necessitated by the war and by the incompetency and inefficiency of private control under existing laws and conditions. I am not suggesting that anybody should be blamed because the laws are as they are or because competitive conditions under private control were as they were. I am speaking only of the inefficiencies and deficiencies of the system and not of individuals.

"We have expended a great deal of government money on improvements for the railroads and for equipment during the war period. We may have to carry for some time a part of the cost of these improvements and this equipment before we can liquidate this cost and secure repayment from the carriers.

"As I said in my testimony before this committee one year ago, I felt sure that the government would have to expend large sums of money for the improvement and betterment of railroad properties during the period of federal control and that I was sure that the government would have a better chance to secure the payment of its advances to the railroads while in possession of their properties than when out of possession. Having expended so much money on the railroads and having carried forward this experiment in unified operation to a point where I now think we can enter upon its last stages with obvious benefit to the public interest, it seems to me a pity to throw away all that we have gained and to attempt a hasty solution which may not be a permanent solution at all, but a mere makeshift, and which may injure the best interests of the American people irreparably at a time when we are facing a new world condition which demands that America shall be on the alert and not only look forward but go forward without hesitation or delay.

"It seems to me that it is our plain duty to preserve the mobilized energies and industries of America in the form of railroad control for a five-year period and use our unified railroads during the great time ahead of us and co-ordinate and synchronize their operation with our great merchant fleet, giving to all the ports on the Atlantic, Gulf and Pacific coasts adequate rail facilities to meet adequate shipping in those ports, so that the development of our country may be carried forward homogeneously and symmetrically and every part of our people be permitted to share in the great prosperity which is now opening up to us. If we control the railroads and the ships, we can develop all the ports advantageously, distribute the traffic of the country over all the facilities so as to avoid needless congestion and loss and have a unified system of rail transportation on land and ship transportation on the high seas that will bring a new and greater era of prosperity and happiness to the American people than they have ever before enjoyed."

Director General McAdoo has already found it necessary to revise the estimate presented in his statement before the committee that the deficit for 1918 would be about $136,000,000. In a letter to Chairman Smith of the committee on January 7, he presented a new estimate that the operating income of the Class I railroads would fall short about $196,000,000 of paying the standard return. He enclosed a letter from G. H. Parker, assistant to Mr. Hines, stating that the returns for the month of November have become available to a large extent, and they indicate that the operating income for November will be less by about $28,000,000 than the amount estimated last week. This falling off, he said, is accounted for by a falling off in business resulting in a decrease in revenues to the extent of $6,000,000 and by an increase in expenses due almost wholly to increased wages, including back pay, of $28,000,000. Mr. McAdoo said in his letter that the fact that these estimates are necessarily subject to revision lends additional point to the statement that it is impossible to predict satisfactory conclusions upon the present necessarily incomplete results for even a single year of government control, especially under war conditions.

Commissioner Clark's Statement

Commissioner Clark began his statement by saying it had been adopted by the commission in conference on December 21 and represented the opinion of all the commissioners except Commissioner Woolley. No specific suggestion for legislation regarding wages and working conditions had been included because of the feeling that there was no justification for the commission to suggest that it would be more successful in dealing with the problem than the various agencies for mediation, conciliation and arbitration already provided for by law. It had not included any reference to the depreciation matter because it could see no occasion for legislation on the subject, as the commission now has the power to require carriers to set up depreciation funds. The whole question involves many complications as to what is a proper charge and the commission has directed a very careful inquiry into the entire subject. As to Commissioner Woolley's objection to blanket and group rates, Commissioner Clark pointed out that if the rates from various coal mines in a given district were not grouped, but were graded in accordance with distance, the entire advantage would go to the producer nearest to the consuming market who would make his price to the public only a shade under the price which the more distant mine could make with its higher freight rate, whereas the group system of rates gives equal opportunity to the producers and consumers. He also pointed out some objections to a mileage system of rates, saying that if grain rates were made on a mileage basis a point would be reached beyond which it would be impossible to ship grain.

Amplifying the suggestions made in the prepared statement, Commissioner Clark expressed the opinion that the public interest would be served if the stronger roads were allowed to take in their weaker connections, receiving the benefit of the traffic turned over to the main line as an offset to the possible unprofitable operation of the branch line. He said he and his colleagues could see no possible harm from such absorption of smaller lines by the larger as long as the government may regulate the rates, and that it is a great deal easier to regulate one large, well-developed corporation than a number of poorly organized companies on the verge of bankruptcy. The idea of the commission is that sound public policy would permit the consolidation of even competing lines with the approval of proper public authority after an investigation.

Members of the committee asked many questions, which indicated sympathy with the attitude expressed by the commission. Senator Gore asked for its attitude regarding the right of the shipper to route his freight, to which Commissioner Clark replied that the present law undoubtedly invites uneconomical routing.

In reply to Senator Underwood, Commissioner Clark said that if the anti-trust law should be abolished and pooling permitted it would be necessary to provide for some regulation of service. Senator Underwood also asked how the commission could regulate the securities of corporations organized under state laws, and as to the commission's attitude toward federal incorporation. Mr. Clark said the commission has entertained no doubt of the power of Congress to regulate the issuance of securities because of the effect of the amount of capitalization upon interstate commerce, and that they thought the subject was controlled by the principle announced by the Supreme Court that when Congress speaks, state action must give way. The commission thought, therefore, that proper supervision of the issuance of securities and of the expenditure of money derived therefrom would be a purely regulatory function which it would be proper to give to the commission, and would be sufficient without going into the question of federal incorporation. In reply to Senator Underwood, Mr. Clark also expressed an opinion that it might be well to give the commission power to initiate rates, although its recommendation extended only to the power to prescribe a minimum rate. He said that the initiation of rates by the carriers was very satisfactory to some shippers but very unsatisfactory to others because the power of the shipper with a large tonnage is very great.

Commissioner Clark read into the record a statement showing the capitalization, earnings and percentages of return of the carriers from 1900 to 1916, as a reply to the statements that the credit of the railroads has been destroyed by niggardly regulation. The figures, he said, point to the fact that in the aggregate the increase in revenues has kept pace with increased investment, that the operating income has increased more than the mileage, and that the surplus of the roads has increased marvelously. He expressed the opinion that if the commission were given the power to regulate security issues and initiate rates and some supervision over operation and service, the unsatisfactory conditions would be largely relieved. He thought that if the commission should fix a reasonable level of rates they would be accepted, generally speaking, both by the railroads and by the public with much less litigation than results from the rates initiated by the carriers.

"Then all of the commissioners with the possible exception of Commissioner Woolley are against Mr. McAdoo's five-year plan?" said Senator Watson.

"We don't think it is a wise plan," replied Commissioner Clark.

"And all of the commissioners, with the possible exception of Commissioner Woolley, are opposed to government ownership?"

"Yes," replied Commissioner Clark, "except that one or two of my colleagues say that they would favor government ownership in preference to some plans that have been sug-

gested." "You agree that it would be unwise to cast the railroads back without legislation?" said Senator Watson.

"Yes, unqualifiedly," replied Mr. Clark.

"Are you in favor of the elimination of all competition?" asked Senator Watson.

Commissioner Clark replied that competition in service ought to be preserved, and that the commission had never thought of consolidating the New York Central and the Pennsylvania, for instance, but rather of the consolidation of the shorter and weaker lines into larger systems. He said he had never been able to see the benefits to be derived from the so-called regional system, but thought it would be better public policy if the railroads were to be consolidated into a comparatively few large systems which then ought to be required to develop their territory by the extension of new lines where necessary.

Senator Watson asked if the commission would favor the creation of a cabinet officer to run the railroads.

"We don't think that would be a desirable plan," replied Commissioner Clark. "One man can make up his mind more quickly than a commission, but several minds working together are more calculated to produce the right result."

"Do you think Congress ought to take five years to make up its mind?" asked Senator Pomerene.

"No," replied Commissioner Clark.

Continuing his testimony on the following day, Commissioner Clark went into detailed analysis of the earnings and expenses of the railroads in 1918, 1917 and the three-year test period, showing that the standard return for the test period for the 10 months including October was $779,694,-244, as compared with a net operating income for the corresponding period of 1918 of $605,178,922. The standard return for the full year the commission had calculated at $929,966,992. Mr. Clark said that while railroad conditions were abnormal in 1918 they were also abnormal in 1917, and he doubted if Congress could get any great amount of additional information by extending the period of experimental control for five years. Within one year he thought Congress could gather all the information necessary and enact the necessary legislation. He said that while the Railroad Administration had been able to do many things that could not be done by private management under the present laws, there had never been any demonstration of what private management could do under other laws and he remarked that there was some advantage to the Railroad Administration in having a revolving fund of $500,000,000 "even if it didn't revolve."

Senator Pomerene asked if he saw any reason why the various administrative and legislative reforms could not be carried out even if the roads were turned back to their owners at an early date. The commissioner replied that the reforms could be made but their effect would be less. If the railroads were turned back they would be confronted by limitations of existing laws and be unable to do promptly many things that he was sure they would do if they were permitted. Without legislation, he said, they would be unable to continue many things which federal control has demonstrated to be advantageous, and it seemed to the commission most desirable that the legislation be enacted before the railroads are returned. He thought Congress ought to withdraw from the President the power he has to turn back the railroads on an hour's notice and that Congress ought to say when they shall be turned back. Congress could say that the period of federal control will terminate on a given date far enough ahead to allow legislation to be perfected and this would end the uncertainty.

When Commissioner Clark said that he had seen many a poor railroad turn into a good railroad after having been taken over by a large system, Senator Underwood asked what could be done in the case of an independent railroad that might be left in a precarious position because of the refusal of a connecting line to take it over. Mr. Clark thought Congress ought to allow a wide discretion to the commission in such matters so that the commission might withhold its approval of any consolidation that would leave an independent property stranded.

Senator Cummins, who has a plan for government ownership of railroad property with private operation, under which the government would issue stock or bonds for the railroads paying, say, 4½ per cent, asked the commissioner if he had considered any way in which the capital charge of railroad operation could be reduced. Mr. Clark said he had not arrived at any conclusion that would enlighten the committee. The senator said that if all capitalization were on the basis of 4½ per cent, the public would be saved approximately $250,000,000 a year by removing the necessity for paying a larger percentage on stock. Mr. Clark expressed no opinion on this point, but he agreed with Senator Cummins that private operation is more economical as far as operating expenses are concerned than government operation would be because of the larger incentive for saving, less probability of expenditures for the purpose of meeting the insistence of the residents of certain sections, and because private management is more likely to adopt new methods that will yield economies. Asked for his opinion as to whether the wages of employees should be reduced under private operation, Commissioner Clark said that, speaking generally, his view is that wages have not been advanced beyond a fair point, although perhaps some further adjustments ought to be made. Senator Cummins also asked where the director general gets his authority to set aside state rates, in view of the reservation to the states in the federal control act of police powers. Without answering this directly, Mr. Clark said he knew of no statutory authority for the director general to do anything except that contained in the federal control act and that the commission had always regarded the power to regulate rates as the exercise of police powers.

"Do you think the President ought to continue to have power to initiate rates?" asked Senator Cummins.

The commissioner replied that the only reason for giving him that power was that the government had assumed the payment of compensation to the railroads and ought to be able to earn it, but that he had always believed that the operation of the railroads for war purposes would have to result in the payment by the government of certain sums as part of its war expenses, which ought not to be charged to shippers.

Senator Pomerene introduced into the record some correspondence between Commissioner McChord and Francis H. Sisson, vice-president of the Guaranty Trust Company, in which the commissioner stated that the Interstate Commerce Commission had allowed the railroads in blanket rate cases from July 1, 1910, to July 1, 1917, increases in revenue amounting to $350,000,000 a year.

Representatives of the National Association of Owners of Railroad Securities, the Investor's Protective League, the American Short Line Railroad Association, the National Association of Railway and Utilities Commissioners, and the shippers and the labor organizations were also in attendance at the hearing prepared to testify. How long the hearings are to continue has not been definitely decided. Chairman Smith of the committee, in announcing the hearings, said it was hoped to complete them by January 15, if possible, but Republican members of the committee are in favor of a thorough consideration of the question and legislation at an extra session after March 4.

Chairman Sims of the House Committee on Interstate Commerce on January 7 introduced a bill to carry out Mr. McAdoo's plan providing for an extension of federal control until January 1, 1924, and appropriating a further sum of $500,000,000, which is to be made a part of the revolving fund.

General News Department

A meeting of the standardization committee of the American Gear Manufacturers' Association will be held at the Hotel Statler, Buffalo, N. Y., January 13 and 14.

The National Farmers' Reconstruction Conference, at a meeting held in Washington on Wednesday of this week, adopted resolutions urging Congress to enact without delay legislation providing for Government ownership of railroads. The proposed five-year test was disapproved.

E. T. Owens, Private Company D, Thirty-seventh Engineers, with the American Expeditionary Forces in France, and formerly associate editor of the *Railway Age* and the *Railway Signal Engineer*, is now attached to headquarters and has been assigned the task of writing the regimental history.

Brigadier-General Henry W. Thornton, general manager of the Great Eastern Railway of England, and formerly general superintendent of the Long Island Railroad, has been gazetted Knight Commander of the Order of the British Empire. General Thornton became a British subject in 1916. He is a member of the Railway Executive Committee which, acting for the Government, has operated the railways of the United Kingdom during the war.

A strike of freight handlers at New York City last week, Thursday, depleted the forces at the freight stations by several thousand men; but most or all of the strikers returned to work on Tuesday, January 7, after having been out three or four days. Work was resumed on promise of early attention to the demands of the men by the Federal Railroad Wage Board. While the men were out embargoes were laid on non-perishable freight destined to the New York piers but not including freight to be unloaded from team tracks; and on some commodities the embargo was placed against Boston and Philadelphia freight as well as that destined to New York, the movement of export freight having been seriously affected.

Railway Storekeepers' Association to Hold Business Meeting

The Railway Storekeepers' Association has decided to hold no convention this year but in its stead a business meeting at the Hotel Sherman, Chicago, on January 27, 28 and 29. Among the subjects to be considered at the meeting are, fundamental principles of railway storekeeping; unapplied material; labor and labor saving devices; scrap and scrap handling; the use, inspection and handling of lumber and cross ties; the conservation of materials and of cars, and the accounting for materials in the store's department.

Nominees for American Railway Engineering Association Offices

The nominating committee of the American Railway Engineering Association has selected the following candidates for offices for the ensuing year: President, Earl Stimson, general superintendent maintenance of way and structures, B. & O., Baltimore, Md.; vice-president, J. A. Atwood, chief engineer, P. & L. E., Pittsburgh, Pa.; treasurer, Geo. H. Bremner, district engineer, Bureau of Valuation, I. C. C., Chicago; secretary, E. H. Fritch, Chicago. For directors, the committee nominates Hadley Baldwin, assistant chief engineer, C., C., C. & St. L., Cincinnati, Ohio; C. F. Loweth, chief engineer, C., M. & St. P., Chicago; J. C. Mock, signal-electrical engineer, M. C., Detroit, Mich.; Geo. A. Mountain, chief engineer, Canadian Railway Commission, Ottawa, Canada; J. A. Peabody, signal engineer, C. & N. W., Chicago; H. T. Porter, chief engineer, B. & L. E., Greenville, Pa.; E. B. Temple, engineering assistant to regional director, U. S. R. A., Philadelphia, Pa.; F. L. Thompson, chief engineer, I. C., Chicago; F. E. Turneaure, dean, College of Engineering University of Wisconsin, Madison, Wis. Five members of the nominating committee are named, as follows: J. R. W. Ambrose, chief engineer, Toronto Terminals Railway, Toronto, Canada; D. J. Brumley, chief engineer for corporation, Illinois Central Railroad Company, Chicago; Maurice Coburn, supervising engineer, Pennsylvania Lines, Indianapolis, Ind.; C. F. W. Felt, chief engineer, A., T. & S. F., Chicago; E. A. Hadley, engineering assistant to regional director, U. S. R. A., St. Louis, Mo.; H. E. Hale, group engineer, Presidents' Conference Committee, New York City; A. W. Newton, chief engineer for corporation, C., B. & Q., Chicago; G. I. Ray, chief engineer, D., L. & W., Hoboken, N. J.; Louis Yager, engineer maintenance of way, N. P., St. Paul, Minn.

Additional Enlistment Records

Information concerning the number of railroad men who joined the armed forces of the nation was received from the following roads too late for publication in the annual statistical number of the *Railway Age:*

NUMBER OF MEN IN MILITARY OR NAVAL SERVICE

Name of Road	Number	Name of Road	Number
Gulf, Colorado & Santa Fe	881	Houston Belt and Terminal	48
International & Great Northern (Fort Worth Division)	93	Fort Worth Belt	7
St. Louis-San Francisco of Texas (including Fort Worth & Rio Grande)	44	Texas Midland	14
		Norfolk Southern	243
		Kinston-Carolina	5
		Carolina	1

National Foreign Trade Council at Chicago

The annual meeting of the National Foreign Trade Council will take place at Chicago on April 24, 25 and 26. A large committee on arrangements has been formed to provide adequate accommodations and suitable entertainment for the delegates to the convention. John J. Arnold, vice-president of the First National Bank, Chicago, is chairman of the committee, and the other members include labor leaders, bankers and prominent industrial and commercial men. R. H. Aishton, Northwestern regional director at Chicago, is a member of this body.

Railway Business Association

The Railway Business Association met at the Hotel La Salle, Chicago, Thursday, January 9, with morning and afternoon sessions and an evening dinner. Two hundred railway supply men were in attendance. In his opening address, Alba B. Johnson, of the Baldwin Locomotive Works, president of the association, emphasized the importance of association members leading in the discussion of the national railway problem and in shaping public opinion favorably to the ideas held by the Business Association. He urged the members to promote systematic study of the railway problem by local commercial associations. He thought the members more ready to recommend an extra session of Congress to consider legislation than to recommend a definite plan at the present time. He also discussed the relations of the association to government purchasing methods. The original purpose of the association to promote co-operation between the railways and the public is now enlarged to include relations between the railway buyer and seller. The policy of the association has been to consider individual grievances as outside the scope of the association, but general practices affecting the entire industry within its scope. An association can handle such matters which an individual could not. The committee on government purchasing policies' and other standing committees presented reports and resolutions, which were adopted.

The association adopted resolutions oppossing the arbitrary

cancellation of contracts, the abolition of contingent fees, the elimination of wholesalers in government purchases, and urging decentralization of testing of new devices, prompter remittances, the calling of Congress in special session to enact railway legislation, if the present Congress fails to act, urging a vigorous policy regarding improvement work and the sharing by the government of the present excess cost of work at the war-time prices, as the railway corporate revenues based on pre-war revenues favor independent federal incorporation, and the exclusive federal regulation of rates favor the creation of a federal department of transportation. The officers of the association elected at the meeting include President Alba B. Johnson, president of the Baldwin Locomotive Works, Philadelphia, and vice-presidents as follows: J. C. Bradley, president of the Pratt & Letchworth Company, Buffalo; Robert F. Carr, president of the Dearborn Chemical Company, Chicago; George W. Simmons, vice-president of the Simmons Hardware Company, St. Louis, Mo.; W. W. Willitts, president of the Adams & Westlake Company, Chicago; W. W. Salmon, president of the General Railway Signal Company, Rochester, N. Y.; K. Taylor, president of the Taylor Wharton Steel Company, High Bridge, N. J., and A. L. Humphrey, president of the Union Switch & Signal Company, Pittsburgh, Pa. M. W. Clayton, of New York, was elected treasurer.

New Airplane Records

Government airplanes arriving at Mineola, L. I., near New York City, on Tuesday, January 7, made new records of speed from the Pacific Coast and from Washington. Major Albert D. Smith, and five others, who started from San Diego, Cal., December 8, and who, therefore, had been on the road just one month, reported having traversed the whole distance in fifty-four hours, actual flying time. The precise route has not been published. The distance by rail would be something like 3,300 miles and the air line distance probably 500 or more miles shorter. This 31-day trip was made without any necessity of repairing or changing motors.

On the same day, Major-General W. N. Kenly flew from Washington to Mineola in one hour, 39 minutes, which is 20 minutes or more under the best preceding time. The distance by rail is about 245 miles.

Eric Stringer made a flight from Dayton, Ohio, to Cleveland, 215 miles, on January 7, in one hour, 15 minutes, or at the average rate of 172 miles an hour. In this case the machine carried a load of 2,500 lb. This was a Martin bombing plane, with two Liberty motors.

An airplane traveling from the government field at Houston, Tex., which arrived in Detroit, Mich., on the afternoon of January 4, is said to have covered the 1,650 miles in 724 minutes, counting only the time actually in the air. The trip had been begun on December 21. Traveling the distance named in 12 hours, 4 minutes, without a stop, would mean 136.74 miles an hour. The last part of this flight was made in temperatures below zero but with no difficulty in keeping the engine running in a satisfactory manner.

The Bonheur Train Accident

Further details are available concerning the fire on a Canadian Pacific passenger train which occurred at Bonheur, Ontario, on December 17. The fire, which destroyed a tourist sleeper, was first discovered by the car porter in the headboard of berth No. 1, occupied by a man with his wife and baby. The porter shouted at once to the passengers, but almost instantly the car was filled with dense suffocating smoke. It is believed that the fire started in this berth through the overturning of a spirit lamp or some other device used to keep food warm for the baby. While the use of such lamps in a railway car is forbidden by the law and there is no necessity for their use, means being provided in tourist cars and dining cars for heating food for children, nevertheless passengers frequently persist in trying to evade the regulation. The number of passengers who lost their lives was 14, two of them children. The number of injured was eight, all of the injuries being slight.

According to the verdict of the coroner's jury the porter exercised poor judgment in running to another car for assistance and would have accomplished much better results if he

RAILWAY REVENUES AND EXPENSES FOR OCTOBER

Item	United States				Eastern District				Southern District				Western District			
	Amount		Per mile of road operated		Amount		Per mile of road operated		Amount		Per mile of road operated		Amount		Per mile of road operated	
	1918	1917	1918	1917	1918	1917	1918	1917	1918	1917	1918	1917	1918	1917	1918	1917
1—Average number miles operated	232,623.76	232,953.40	...	...	59,942.91	59,961.00	...	...	42,616.10	42,677.01	...	...	130,064.75	130,315.39	...	...
Revenues—	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
2—Freight	364,345,144	271,395,058	1,566	1,165	162,180,375	118,148,494	2,706	1,970	53,812,455	40,581,396	1,263	951	148,352,314	112,665,168	1,140	864
3—Passenger	84,715,185	77,280,262	364	332	36,711,132	32,475,023	612	542	15,499,923	12,479,400	364	292	32,504,130	32,325,839	250	248
4—Mail	4,272,807	4,636,813	18	20	1,646,415	1,887,053	27	30	693,996	713,613	16	17	1,932,396	2,036,147	15	16
5—Express	12,680,618	9,212,441	55	39	6,342,417	4,312,418	106	72	1,647,853	1,136,443	38	27	4,690,348	3,763,580	36	29
6—All other transportation	11,773,692	10,037,416	51	43	6,661,096	5,368,406	111	90	1,011,957	861,295	24	20	4,100,639	3,807,715	31	29
7—Incidental	11,168,974	9,741,173	48	42	6,462,653	5,562,554	108	93	1,332,152	1,023,564	31	24	3,374,169	3,155,055	26	24
8—Joint facility—Cr.	524,371	384,885	2	2	275,448	182,630	4	3	119,416	90,501	3	2	129,507	111,754	1	1
9—Joint facility—Dr.	148,532	143,737	1	1	72,307	89,998	1	1	25,745	25,485	1	1	50,480	28,254	...	...
10—Railway operating revenues	489,332,259	382,544,311	2,103	1,642	220,207,229	167,846,580	3,673	2,799	74,092,007	56,860,727	1,738	1,332	195,033,023	157,837,004	1,499	1,211
Expenses—																
11—Maintenance of way and structures	63,660,493	40,490,983	274	174	28,383,913	18,027,320	473	301	9,616,287	6,357,277	226	149	25,660,293	16,106,386	197	123
12—Maintenance of equipment	118,801,741	63,895,847	511	274	59,087,350	30,998,362	986	517	17,607,761	10,014,675	413	235	42,106,630	22,882,810	324	175
13—Traffic	3,462,372	5,701,991	15	24	1,563,655	2,368,050	26	39	676,212	1,040,041	16	24	1,222,505	2,293,900	9	18
14—Transportation	185,133,534	139,351,458	796	598	90,034,671	67,624,599	1,502	1,128	27,749,969	18,967,920	651	444	67,348,894	52,758,939	518	405
15—Miscellaneous operations	3,304,741	3,010,315	14	13	1,609,228	1,408,582	27	23	342,666	281,934	8	7	1,352,847	1,319,799	10	10
16—General	9,588,742	8,409,243	41	36	4,323,996	3,691,717	72	62	1,424,457	1,310,808	33	31	3,840,289	3,406,718	30	26
17—Transportation for investment—Cr.	579,057	802,618	3	3	68,282	73,533	1	1	160,844	160,844	2	4	407,651	568,241	3	4
18—Railway operating expenses	383,372,566	260,057,219	1,648	1,116	184,934,531	124,045,097	3,085	2,069	57,314,228	37,811,811	1,345	886	141,123,807	98,200,311	1,085	753
19—Net revenue from railway operations	105,959,693	122,487,092	455	526	35,272,698	43,801,483	588	730								
20—Railway tax accruals (excluding "war taxes")	16,396,539	16,621,554	71	71	6,228,510	6,357,050	104	106	16,777,779	19,048,916	393	446	53,909,216	59,636,693	414	458
21—Uncollectible railway revenues	51,929	97,105	...	...	11,519	34,274	...	...	2,211,684	2,387,308	52	56	7,956,345	7,877,196	61	61
22—Railway operating income	89,511,225	105,768,433	384	455	29,032,669	37,410,159	484	624	14,562,176	16,653,482	341	390	45,916,380	51,704,792	353	397
23—Equipment rents	*1,249,022	*1,937,273	**	8	*1,145,659	*2,822,537	*19	*47	96,436	839,147	*2	20	6,927	46,217	...	...
24—Joint facility rents (Dr. Bal.)	1,156,077	1,130,782	5	5	584,763	657,602	10	11	187,134	176,627	4	4	384,180	296,553	3	2
25—Net of items 22, 23 and 24	87,106,126	102,700,478	374	442	27,302,247	33,930,020	455	566	14,278,606	17,316,002	335	406	45,525,273	51,454,456	350	395
26—Ratio of operating expenses to operating revenues, per cent	78.35	67.98	...	...	83.98	73.90	...	...	77.36	66.50	...	...	72.36	62.22	...	...

*Debit item.

had immediately used the fire extinguishers which were at hand in the car. The jury recommended that porters be regularly put through a fire drill.

Railway Revenues and Expenses for October

Net operating income of the railways for October as reported by the Interstate Commerce Commission again showed a decrease, the total being $87,106,126, as compared with $102,700,478 in October, 1917; decrease $15,594,352. While the operating revenues increased $107,000,000, the increase in expenses was $123,000,000, and the operating ratio for the month was 78.35, as compared with 67.98 in October, 1917. After having shown a decrease for the first six months of the year, net operating income had increased in July, August and September, under the influence of the higher freight and passenger rates that went into effect in June; but in October the expenses again overtook the increase in revenues. The operating income per mile for October was only $384, as compared with $428 for the month of October in the "test" years ending June 30, 1915, 1916 and 1917.

For the 10 months ending with October the net operating income was $605,178,922, or $228,000,000 less than that for the corresponding period of 1917. While the total operating revenues, $4,032,234,144, were $677,000,000, or 20 per cent greater than in 1917, the operating expenses, $3,247,085,929, were $903,000,000, or 38 per cent greater, and taxes were $8,000,000 greater. The operating ratio was 80.53, as compared with 69.87. The freight revenues increased $461,000,000; passenger revenues $181,000,000, and express revenues $15,000,000, while the mail revenues decreased $5,000,000. Of the increase in expenses, $138,000,000 was for maintenance of way and structures, $333,000,000 for maintenance of equipment, $426,000,000 for transportation and $12,000,000 for general expenses. Traffic expenses decreased $12,000,000. The figures for October are shown in the large table.

Master Car Builders' Rules of Interchange Modified

The Master Car Builders' Association has recently issued Circular No. 25 announcing certain changes in the 1918 Code of Interchange Rules. A second paragraph has been added to rule 8, which specifies that when repairs are made to cars of private ownership equipped with a receptacle for cards, a copy of the billing repair card shall be inserted in the receptacle. A new rule, No. 23, has been formulated which provides for the periodical repacking of journal boxes. Rule 120, with some modifications, has been reinstated, effective January 1, 1919, to provide for the disposition of cars belonging to private car lines and railroads not under federal control which require extensive repairs for which the owners are responsible. The circular also contains two interpretations of Article II of the 1918 rules of interchange.

New York Railroad Club Meeting

C. A. Morse, assistant director, engineering and maintenance department, Division of Operation of the U. S. Railroad Administration, will discuss the railroad question from an engineering and economic point of view at the regular meeting of the New York Railroad Club, which is to be held on Friday evening, January 17, at the Engineering Society's Building, New York.

Master Mechanics' Association Appoints New Officers

At a meeting of the executive committee of the American Railway Master Mechanics' Association, held in Chicago on January 3, W. J. Tollerton, general mechanical superintendent of the Rock Island Lines, was appointed president of the association, to fill the vacancy caused by the resignation of F. H. Clark. C. F. Giles, superintendent of machinery of the Louisville & Nashville, was appointed first vice-president, and C. H. Hogan, assistant superintendent motive power, New York Central, was appointed second vice-president. The position of third vice-president was left vacant and will be filled by election at the time of the next annual meeting.

Traffic News

A steel barge, designed for use on the Erie Canal, the first of 24 barges ordered by the United States Railroad Administration, was launched at the yard of the Ferguson Steel & Iron Company, Buffalo, N. Y., on January 4.

Coal loading for the week ended December 21 amounted to 211,177 cars, as compared with 216,967 during the corresponding week of 1917. The total increase for the year up to December 28 is estimated at 570,077 cars.

Bituminous coal production in the United States during the year just closed, as reported by the National Coal Association, amounted to 587,500,000 tons, an increase of approximately 36,000,000 tons, or nearly 7 per cent, over the production in 1917, which was in itself a record.

J. M. Belleville, general freight agent of the Pittsburgh Plate Glass Company, Pittsburgh, Pa., has been appointed a member of the Eastern Freight Traffic Committee as the representative of shippers, to succeed G. M. Freer. This committee's headquarters is in New York.

Reductions of 25 per cent or more are announced at New York in freight rates to ports in South America, Asia, Australia and Africa. To Para, Brazil, the rate quoted last week was $22.50 a ton; to Buenos Aires, $25 a ton; to points in Japan and China, $45; Singapore, $45; Manila, $40.

Gen. W. W. Wotherspoon, superintendent of public works of the State of New York, in his annual report to the legislature, says that the federal government ought to discontinue its control of the New York State Canals, but he recommends that twelve months' notice be given before actually transferring the control back to the state.

J. W. McClymonds, vice-president and general manager of the Pacific Fruit Express Company, with headquarters at San Francisco, Cal., has resigned from that company to become general manager of the Federal Refrigerator Company, a new car icing concern which is a merger of a number of smaller companies, effective January 1.

The Iowa state railroad commissioners were granted an injunction recently restraining the American Railway Express Company from enforcing the express rates which were increased January 1. The express company is disregarding the injunction on the ground that it is not responsible for the rates as they were initiated by the director general; and furthermore it is declared that state authorities have no jurisdiction over transportation rates under the present scheme of government control. Similar injunctions have been secured by the railway commissions of South Dakota and Nebraska.

A. C. Johnson, chairman of the Western Freight Traffic Committee, Chicago, has issued Supplement 3 to reprint of Circular 3 containing explanatory rules in connection with the application of rates under General Order 28 of the director general: "Please refer to provision in Supplement 1 to reprint of Circular 3 for minimum carload charge and be advised that the minimum charge of $15 should be applied to the movement of each unit of railroad equipment moving on its own wheels, but that in the case of the combination of separately published factors to make a through charge on such a shipment, the required minimum $15 per unit is to be applied to the total charge made by such a combination and not to the separate factors."

R. D. Sangster, transportation commissioner of the Kansas City Chamber of Commerce, has written to C. A. Prouty respectfully suggesting and insistently urging that the Railroad Administration take prompt steps toward the re-establishment of foreign line offices to attend to diversions, the location of cars, the giving of passing reports and tracing, when necessary; as well as the proper quotation of rates, etc. The publication of a list designating representatives of initial lines to take care of foreign lines' interests is declared a

failure. It is suggested that consolidated off-line offices might be established, each to represent a certain region. It is desired that the offices of initial Kansas City lines be kept intact and be individually operated.

The sailing day plan for less than carload freight has proved, at Kansas City, very unsatisfactory, according to a complaint presented on behalf of the Kansas City Chamber of Commerce by R. D. Sangster, transportation commissioner of the Chamber. No objection is made to the movement of freight to common points by a single road, instead of accepting shipments over all of the roads every day, but the Chamber protests against the continuance, anywhere, of the rule for shipping freight to a given place on only two or three days a week. It is admitted that, to obtain fair tonnage, it may be proper sometimes to hold a car over for a single day, but the shippers demand that carriers receive the freight into the freight house every day. The protestants believe that Kansas City is discriminated against as compared with shipping points east of the Mississippi River where the sailing day plan is not in effect. It is claimed that peddling cars from Kansas City have been loaded so full that local conductors (at the larger stations) would not unload the freight and then the car would be set out and some of the freight delayed a whole day. This, it is claimed, has resulted in a great increase in the number of loss and damage claims. It is declared unreasonable to place so much emphasis on full car loading over routes where large numbers of empty cars are moving at all times, as for example, the westward movement in a grain producing territory.

Lumber Manufacturers Open Traffic Bureau

The National Lumber Manufacturers' Association has opened a fully equipped traffic bureau in the Southern building, Washington, D. C. This bureau will interest itself in all traffic matters of a national character which affect the lumber industry. Frank Carnahan, for a number of years connected with the traffic departments of the Chicago, Rock Island & Pacific and the Chicago & Alton, is in charge of the bureau.

Central Western Loading Records

Railroads in the Central Western region showed increases in grain and live stock traffic and a decrease in coal during December. These lines loaded D43,013 cars of grain as compared to 39,123 cars during the corresponding month of 1917, or an increase of 9.8 percent. There were loaded 100,145 cars of coal as compared with 132,819 loaded in December, 1917, or a decrease of 24.6 per cent. There was increase of 25.8 per cent in the number of cars of live stock loaded, the comparative figures for December, 1918 and 1917, being 61,170 cars and 48,622 cars respectively.

Mississippi Valley Foreign Trade Convention

The Mississippi Valley Foreign Trade Convention will be held at New Orleans, La., on January 13 and 14. The primary purpose of this meeting is to promote the movement of foreign trade by way of the Gulf ports, the development of steamship lines and improvement of transportation facilities to and from the Mississippi Valley by way of the Gulf. The convention will give the producers and shippers of the Mississippi Valley an opportunity for concert of action and for co-operation in securing additional and cheaper channels of trade and wider foreign markets. It will be suggested to the convention that a Mississippi Valley Foreign Trade Development Bureau be organized for the promotion of foreign traffic through the Gulf ports. The speakers at the meeting will include Hon. Bainbridge Colby, of the United States Shipping Board; R. L. McKellar, secretary of the Exports Control Committee; M. J. Sanders, federal manager of the Mississippi-Warrior Waterways; John J. Arnold, vice-president of the First National Bank, Chicago; Harry H. Merrick, president of the Chicago Association of Commerce; James E. Smith, president of the Mississippi Valley Waterways Association; W. B. Thompson, president of the Dock Board, New Orleans, and Walter Parker, general manager of the New Orleans Association of Commerce.

Supply Trade News

The French Government has conferred upon **Samuel M. Vauclain,** first vice-president of the Baldwin Locomotive Works, the title of Chevalier of the Legion of Honor.

Ernest Baxter has been appointed general sales manager of the Kansas City Bolt & Nut Company, with headquarters at Kansas City, Mo., succeeding **L. L. Middleton,** promoted.

Edward F. Carry has resigned as chairman of the Port Facilities Commission at Washington to return to his office at Chicago as president of the Haskell & Barker Car Company.

Nelson T. Burns, formerly inspector in the mechanical department of the New York Central at New York, has been appointed district salesman for the Vapor Car Heating Company, with headquarters at Chicago, succeeding **Roswell P. Cooley.**

Cyrus J. Holland has been appointed western representative of the Wine Railway Appliance Company, Toledo, Ohio, with offices at 730 Peoples Gas building, Chicago, succeeding the vice-president, **R. F. Tillman,** who has been assigned to other duties, with headquarters in Toledo.

Nathaniel M. Rice has been elected a vice-president of the Pierce Oil Corporation, in charge of lubrication, with headquarters at 420 Olive street, St. Louis, Mo. The managers of the railroad lubricating, stationary engine lubricating and automobile lubricating departments will report to and receive instructions from Mr. Rice. Mr. Rice was formerly connected with the St. Louis - San Francisco, having occupied the position of purchasing agent, and later that of third vice-president. He was born December 28, 1863, at Rome City, Ind., received his early education in the public schools at that place, and in May, 1887, entered railway service as a brakeman on the Gulf, Colorado & Santa Fé. He served in various capacities in the transportation and store departments of the company, and on April 1, 1901, he was made assistant general storekeeper of the Atchison, Topeka & Santa Fé Coast Lines, which connection he held until April 1, 1903, when he became general storekeeper in full charge of material, fuel and stationery, serving the entire system. In November, 1913, he was appointed chief purchasing agent of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., and in September, 1916, was elected third vice-president of the same road.

N. M. Rice

Captain George A. Post, Jr., of the Ordnance Department, U. S. A., has received an honorable discharge from the military service and has returned to the service of the Standard Coupler Company, as assistant to the president, with headquarters at 30 Church street, New York.

The Wellman-Seaver-Morgan Company, of Cleveland, Ohio, has opened a San Francisco office at 415-417 Rialto building, in charge of Norman S. Ross, to handle business originating from California, Nevada, west of the 115th meridian; Lower California, and the counties of Josephine, Jackson and Klamath in Oregon.

Thomas P. Orchard, formerly production manager on the Browning machine gun tripods, with the New Britain Ma-

chine Co., New Britain, Conn., has joined the Service Engineering Company, planning and quantity production specialists, 25 Church street, New York, as sales engineer.

V. I. Smart, formerly professor of railway engineering and transportation, McGill University, and **J. A. Burnett,** formerly electrical engineer, Grand Trunk Railway System, are now associated as consulting engineers, with office at 821 New Birks building, Montreal. The lines handled will be civil, electrical and mechanical engineering.

Horace N. Trumbull, who has recently received his discharge from the Engineers Officers' Training School at Camp A. A. Humphreys, Va., has been appointed advertising manager of the Wellman-Seaver-Morgan Company, of Cleveland, Ohio. Before entering the service, Mr. Trumbull was advertising manager of the SKF Ball Bearing Company, of Hartford, Conn.

Wm. T. Lane has been appointed district sales manager of the Franklin Railway Supply Company, Inc., with offices at San Francisco, Cal. Mr. Lane has spent his entire business career in the railway supply field. For the past seven years he has constantly been in touch with locomotive development. On leaving college he went as an apprentice with the Franklin Portable Crane & Hoist Company. His next position was as draftsman for the Franklin Railway Supply Company, Inc., and then chief draftsman. In 1915, he was made mechanical engineer of this company, which position he held at the time of his new appointment.

S. D. Rosenfeld has been appointed district sales manager of the Franklin Railway Supply Company, Inc., with offices at Houston, Texas. Mr. Rosenfeld has had wide experiences in railroad work and has brought out several inventions that improved locomotive operation. He was born at Lincoln, Nebraska, and received his early education at that place. Upon leaving college he entered the service of the Chicago & North Western, serving in the machine shop and signal department, and then as fireman and engineer. In 1912, Mr. Rosenfeld resigned as locomotive engineer and entered the service of the Franklin Railway Supply Company as mechanical representative, which position he held at the time of his recent appointment.

Fred C. J. Dell has been elected secretary of the National Railway Appliance Company, effective December 24, 1918. Mr. Dell has acted in the capacity of secretary to the president of the company for the past two years, previous to which time he was connected with the American Electric Railway Manufacturers' Association as assistant to the secretary-treasurer. He held that position from March, 1911, to May, 1916, at which time he resigned to assume charge of the detail work of the exhibit committee for the 1916 convention of the American Electric Railway Association. In October, 1916, he was elected secretary of the American Electric Railway Manufacturers' Association, which position he still holds. He received his early training in the office of the vice-president and general manager's office of the Interborough Rapid Transit Company, where he was employed in a clerical capacity for a period of seven years.

The Consolidated Steel Corporation, formed recently to handle the export trade of several independent steel producers, has opened offices in the City Investing building at 165 Broadway, New York. **E. A. S. Clarke,** former head of the Lackawanna Steel Company, is president of the export concern. The other officers are **H. H. Barbour,** vice-president, formerly of the Lackawanna Steel Company; **W. Hesselman,** secretary and controller, and **A. Van Winkle,** treasurer. Mr. Hesselman was controller of the Lackawanna Company, and Mr. Van Winkle was secretary to Mr. Clarke when he was at the head of that concern. The traffic manager is **William Heyman,** formerly foreign freight agent for the Delaware, Lackawanna & Western Railroad. Eight of the independent steel companies are represented in the organization. They are the Bethlehem Steel Corporation, the Brier Hill Steel Company, the Lackawanna Steel Company, the Lukens Steel Company, the Midvale Steel and Ordnance Company, the Republic Iron & Steel Company, the Sharon Steel Hoop Company, the Trumbull Steel Company, the Whitaker-Glessner Company and the Youngstown Sheet & Tube Company. The board of directors of the new export company is made up from the heads of these companies.

Reorganization of Grip Nut Company

All of the Hibbard interests in the Grip Nut Company, Chicago, have been purchased by others and the company has been reorganized with the following officers: Francis H. Hardy, chairman of the board of directors; William E. Sharp, president; Chester D. Tripp, vice-president; Herman A. Brassert, vice-president; Truman F. Miller, secretary and treasurer. The directors of the company include Messrs. Hardy, Sharp, Tripp, Brassert and Thomas G. Deering. H. E. Passmore, formerly with the mechanical department of the New York Central and later production manager of the Marble Cliffs Quarries Company, has been appointed sales representative of the Grip Nut Company. William E. Sharp, who has been elected president of the reorganized corporation, began his railway career as an apprentice in the car department of the Erie in April, 1889. In October, 1892, he was promoted to general foreman of the car and locomotive department of the same road, with headquarters at Chicago. He left the Erie in 1898, to become assistant superintendent of the Armour Car Lines. In April, 1901, he was promoted to superintendent of those lines. He resigned that position in 1911 to enter the railroad supply business as vice-president of the Grip Nut Company. He was elected president of the company in September, 1916, and became president of the reorganized corporation in November, 1918.

W. E. Sharp

Westinghouse to Build Electric Locomotives at Essington

Discussing the prospects for the year 1919 at the Essington, or South Philadelphia, Works of the Westinghouse Electric & Manufacturing Company, R. B. Mildon, assistant to the vice-president, recently made the following statement:

"We share the general opinion in the industrial field that business will slow down somewhat owing to the readjustment of the industries from a war to a peace basis; but by spring this phase should be over and then for the next few years we should have a period of prosperity.

"As far as the Westinghouse Works at Essington is concerned, we have enough orders on hand to keep us busy for the next year without considering new business which is now beginning to develop.

"We are at present making nothing here but ship propulsion machinery, but our plans contemplate bringing here all of our turbine and electric generator construction work that is now being handled at East Pittsburgh. Before we can accommodate this additional business, however, we shall have to build several new buildings, including an office building, a shop for making turbine blades, and an electric generator shop. Unless we are mistaken in our expectations, however, this new construction work should begin this spring.

"Looking a little further ahead into the future it is probable that we shall in time erect a building for the construction of electric locomotives. The electric railroad situation is unquestionably very favorable and a large amount of electrification will be undertaken in the next ten years. We co-operate with the Baldwin Locomotive Works in the manufacture of electric locomotives and our location here, so close to the Baldwin plant, makes this the proper place to do our part of the work.

"In other words, we plan to build at Essington all of our large and important apparatus, and as the demand for this class of apparatus is certain to increase rapidly from year to year,

we expect to see our plant expand in the near future to many times its present size."

Dr. Walter V. Turner

Dr. Walter Victor Turner, manager of engineering of the Westinghouse Air Brake Company, died at the Columbia Hospital, Wilkinsburg, Pa., Thursday morning, January 9. In the death of Doctor Turner the world has lost the greatest air-brake expert of the age. Doctor Turner has had a most unique career, having by the fate of destiny entered on a work that has meant so much to American railroading. He was born in Epping Forest, Essex county, England, April 3, 1866. He was in the wool business in that country and came to America in 1888 to develop his education along those lines. He was secretary and manager of the Lake Ranch Cattle Company, Raton, N. M., in 1893. In 1897 this company failed, and Doctor Turner entered the employ of the Atchison, Topeka & Santa Fe as a car repairer. In one month he was made gang foreman and three years later was made chief inspector. Having previously become interested in air-brake apparatus through a bad wreck that occurred in the vicinity of his home, he made a very careful study of its intricacies in his new position, and it was during the first year of his employ that he developed his first air-brake patent. He soon gained a reputation for proficiency in air brakes and was placed in charge of the air-brake instruction car on that road. From general air-brake instructor he was promoted to mechanical instructor for the entire system, during this time having taken out 22 patents, which were sold to the Westinghouse Air Brake Company.

Dr. Walter V. Turner

At the 1902 convention of the Air Brake Association, which was held in Pittsburgh, Doctor Turner was offered a position with the Westinghouse Air Brake Company, but refused. The offer was repeated again at the 1903 convention, and in November of that year arrangements were made between the Air Brake Company and the Santa Fe to loan Doctor Turner to the former. That arrangement was continuously in effect to the time of his death. In 1907 he was made mechanical engineer; in 1910, chief engineer; in 1915, assistant manager, and in 1916, manager of engineering. The first task of Doctor Turner with the Westinghouse company was to develop the *K* triple valve, of which there are now over 2,000,000 in use. By his untiring energy and ingenuity the art of braking trains has developed by leaps and bounds. He has been granted over 400 patents and a hundred or more are still pending. Among his latest inventions the improved empty and load brake and the electro-pneumatic brake stand out pre-eminently. These made possible an increase of 300 per cent in the capacity of the New York subways.

Doctor Turner was also an author, among the more important of his books being "Train Control—Its Development and Effect on Transportation Capacity," which was published in two volumes. He was awarded the Longstreth medal in 1911, and the Elliott-Cresson medal in 1912. He was a fellow of the Royal Society of Arts, England, and a member of the American Society of Mechanical Engineers, the American Electric Railway Association, Franklin Institute (Philadelphia), and the Pennsylvania State Chamber of Commerce. Doctor Turner's death was the result of complications, among them being enlargement of the heart and Bright's disease. He was injured two or three years ago in an automobile accident, to which he attributed his condition. He had been seriously ill since the middle of November. He leaves, besides his widow, a married son and daughter.

Dr. Angus Sinclair

Angus Sinclair, D. E., founder and editor-in-chief of Railway and Locomotive Engineering, New York, died at his home in Millburn, N. J., on January 1, 1919, at the age of 78. Doctor Sinclair was born in Forfar, Scotland. He began his railroad career as a telegraph operator and later was a locomotive engineman on the Scottish Northeastern Railway. He attended evening high school and later for several years was employed in the Customs Department in Montrose, Scotland, and London, England. A love of adventure took him to sea and after some service as a marine engineer he again took up railroad work in America, first in the service of the Erie, and afterward in the West, where he ran a locomotive on the Burlington, Cedar Rapids & Northern. During this period he attended the chemistry classes of the Iowa State University, making a specialty of water analysis, and was appointed chemist of the railroad, combined with the duties of roundhouse foreman. It was during this period that he first gave serious consideration to the problem of fuel economy and smoke prevention on which he has since written extensively.

Dr. Angus Sinclair

In 1883 he joined the editorial staff of the American Machinist, a few years later became president of the publishing company. In 1887 the company, desiring to broaden its field, established the Locomotive Engineer, of which the late John A. Hill became editor. A few years later Doctor Sinclair and Mr. Hill bought this paper, now Railway and Locomotive Engineering, and since Mr. Hill's retirement from the partnership in 1897, Doctor Sinclair has been the sole proprietor and editor-in-chief. In 1908 the faculty of Purdue University, Lafayette, Ind., conferred upon Mr. Sinclair the honorary degree of Doctor of Engineering. About this time he was appointed special technical instructor in the mechanical department of the Erie Railroad.

Doctor Sinclair has also been closely identified with the work of nearly all of the leading engineering societies in America and with some in Europe. He was the senior officer, in point of continuous service, of the American Railway Master Mechanics' Association, having been treasurer since 1900. Previous to that time he had served as secretary from 1887 to 1896. He was also a member of the Master Car Builders' Association, the American Society of Mechanical Engineers, and was instrumental in the establishment of the Traveling Engineers' Association, which was organized in his office in 1892. He was a delegate to three International Railway Congresses, at Washington, D. C., St. Louis, Mo., and Berne, Switzerland.

Doctor Sinclair is the author of a number of works on railroad subjects, some of which have become text books, including Locomotive Running and Management, Combustion in Locomotive Fireboxes, Firing Locomotives, Railroad Man's Catechism, Twentieth Century Locomotives and History of the Development of the Locomotive Engine. His first published work, Locomotive Running and Management, was begun while he was running a locomotive and was made up entirely from personal observation. It has repeatedly been revised by the author and has passed through 26 editions, the last appearing in 1915. His work on Firing Locomotives has been translated into eight languages, including Chinese. In his long and varied career Dr. Sinclair has been a pioneer in the study and development of many practices pertaining to locomotive operation which have now become well established and his influence will long be felt in practical railroad operation.

Railway Officers

Railroad Administration

Central

A. F. Duffy, assistant manager of the Safety Section, Division of Operation, of the Railroad Administration, has been appointed manager of the section, succeeding **H. W. Belnap,** deceased.

Regional

J. A. Lucey, formerly trainmaster on the Minneapolis & St. Louis, has been appointed supervisor of freight loss and damage of the Northwestern region with headquarters at Chicago.

James E. Weller, formerly general western freight agent of the Pennsylvania Lines at Chicago, has been appointed resident traffic assistant for the Allegheny region, with headquarters at Chicago.

T. W. Proctor, assistant general freight agent of the Chicago, Milwaukee & St. Paul at Chicago, and chairman of the Sailing Day Plan Committee of the Northwestern region, has been appointed supervisor of merchandise service of that region with the same headquarters.

Federal and General Managers

E. F. Blomeyer, general manager of the Ann Arbor, with headquarters at Toledo, Ohio, will also have jurisdiction over the Manistique & Lake Superior.

The authority of **George L. Peck,** federal manager, Pittsburgh, Pa., has been extended over the Grand Rapids & Indiana, which has been released from the jurisdiction of **E. D. Bronner,** federal manager.

Operating

J. J. McCullough has been appointed superintendent of the Seattle (Wash.) terminals.

Lawrence A. Downs, general superintendent in charge of the northern lines of the Illinois Central, has been promoted to assistant general manager of that line, the Yazoo & Mississippi Valley and the Chicago, Memphis & Gulf, with headquarters at Chicago, to succeed **A. E. Clift,** promoted. Mr. Downs was born at Greencastle, Ind., on May 9, 1872, and graduated from Purdue University in 1894. Early in 1895 he began railway work with the Vandalia Railroad and from March, 1896, to 1898, was in an engineering party on the Illinois Central. He then served as roadmaster from 1898 to March, 1907, on the Amboy, the Louisville, the Louisiana, the Springfield and the Chicago divisions. In March, 1907, he was appointed assistant chief engineer maintenance of way, remaining in that position until December 6, 1910, when he was appointed superintendent of the Kentucky division. On November 1, 1915, he was promoted to general superintendent of all lines south of the Ohio river, with headquarters at New Orleans, La. On August 1, 1917, he was transferred to Chicago to become general superintendent of the northern lines. He has continued in that position up to the time of his recent promotion.

L. A. Downs

C. McDonough, superintendent on the Great Northern at Everett, Wash., will also have supervision of Everett terminal.

F. C. Dow, superintendent of the Chicago, Milwaukee & St. Paul, is now in charge of the Milwaukee terminal, Tacoma, Wash.

J. W. Allen, superintendent of the Northern Pacific, will in future supervise the operation of Auburn and Tacoma (Wash.) terminals.

J. W. Barrett has been appointed trainmaster on the Salt Lake division of the Denver & Rio Grande, succeeding **J. W. Durkin,** resigned, effective January 1.

Albert E. Clift, assistant general manager of the Illinois Central, the Yazoo & Mississippi Valley and the Chicago, Memphis & Gulf, has been promoted to general manager, with headquarters at Chicago, to succeed **T. J. Foley,** deceased. Mr. Clift was born at Urbana, Ill., on October 15, 1869, and entered railway service with the Illinois Central on December 5, 1888, as a brakeman. He was later a conductor on the same line and on the Cleveland, Cincinnati, Chicago & St. Louis. On February 19, 1893, he returned to the Illinois Central as engine foreman of the Champaign district. From March 7, 1893, to February 22, 1905, he was consecutively yardmaster, conductor on the Chicago district, passenger conductor on the Chicago division, acting trainmaster of the Chicago district at Kankakee, Ill., and trainmaster of the Chicago division. On the latter date he was appointed superintendent of the Freeport division at Freeport, Ill., and on January 16, 1907, was transferred to the St. Louis division at Carbondale, Ill. On June 1, 1910, he was promoted to general superintendent of the southern lines with headquarters at New Orleans, La., and on November 10, 1912, was appointed general superintendent of the northern and western lines at Chicago. He was appointed general manager on August 1, 1917, to succeed Mr. Foley, who was then elected vice-president of operation. With the readjustment of railroad titles under government control Mr. Foley was made general manager and Mr. Clift assistant general manager. As general manager under the present organization, Mr. Clift takes over the duties formerly performed by Mr. Foley.

A. E. Clift

M. W. Clement has been relieved of his duties as superintendent of freight transportation and has been appointed acting superintendent of passenger transportation of the Pennsylvania Railroad, Eastern Lines; the West Jersey & Seashore; the New York, Philadelphia & Norfolk, and the Huntingdon & Broad Top Mountain Railroad, vice **D. C. Stewart,** furloughed.

William Elmer, superintendent of the Schuylkill division of the Pennsylvania Railroad, Eastern Lines, with office at Reading, Pa., has been appointed acting superintendent of the Philadelphia division vice **F. W. Smith, Jr.,** furloughed, and **C. D. Young,** formerly superintendent of motive power with office at Wilmington, Del., has been appointed acting superintendent of the Schuylkill division vice Mr. Elmer. Mr. Young resigned in November as superintendent of motive power to become a lieutenant-colonel in the transportation corps, engineers.

J. J. Pelley, general superintendent of southern lines of the Illinois Central and the Chicago, Memphis & Gulf, with

headquarters at New Orleans, La., has been transferred to Chicago as general superintendent of the northern lines of the Illinois Central, succeeding **L. A. Downs,** promoted to assistant general manager. **J. M. Egan,** superintendent at Fulton, Ky., has been promoted to succeed Mr. Pelley at New Orleans. **J. W. Hevron,** superintendent at Clinton, Ill., has been transferred to Fulton, Ky., to succeed Mr. Egan; **C. W. Shaw,** trainmaster at East St. Louis, Ill., has been promoted to superintendent at Clinton, succeeding Mr. Hevron; **J. D. White,** trainmaster at Carbondale, Ill., has been transferred to East St. Louis, succeeding Mr. Shaw, and **E. D. Holcomb,** chief clerk in the office of the general superintendent of transportation at Chicago, has been appointed trainmaster at Carbondale to succeed Mr. White.

Financial, Legal and Accounting

L. C. McCutcheon has been appointed freight claim agent of the St. Louis-San Francisco, with jurisdiction over freight, loss and damage claims, with headquarters at Springfield, Mo. **G. E. Whitelam** having resigned, the office of superintendent of freight, loss and damage claims is abolished.

F. A. Winkler, acting federal treasurer of the Chicago, Milwaukee & Gary, with headquarters at Rockford, Ill., has been appointed federal auditor to succeed **C. G. Nelson,** who has resigned to go with the corporation. **V. E. Nelson,** disbursement clerk at Rockford, has been promoted to acting federal treasurer to succeed Mr. Winkler.

Traffic

J. J. Cowan, chief clerk to the vice-president and general manager of the Pacific Fruit Express Co., with headquarters at San Francisco, Cal., has been appointed district agent with the same headquarters.

J. T. Conley, general freight agent of the Chicago, Milwaukee & St. Paul at Chicago, resigned effective January 1. He was succeeded by **C. A. Lahey,** whose appointment was announced in the *Railway Age* of January 3.

L. F. Vosburgh, passenger traffic manager of the New York Central lines east of Buffalo, has had his authority extended over the lines west of Buffalo, with headquarters at New York City; and **J. W. Daly,** passenger traffic manager of the lines west of Buffalo, has been appointed assistant passenger traffic manager, with headquarters at Chicago.

J. W. Graham, in addition to his duties as general freight agent of the Toledo, St. Louis & Western, has been appointed assistant general freight agent of the Wabash Railroad with office at Toledo, Ohio; **C. E. Rose,** assistant general passenger agent of the Toledo, St. Louis & Western, has also been appointed assistant general passenger agent of the Wabash Railroad, with office at Toledo, and **D. E. Gilbert,** division freight agent of the Wabash Railroad, with office at Toledo, will continue in charge of all Wabash matters on the Toledo and Peru divisions.

Robert L. Russell, whose appointment as freight traffic manager of the Philadelphia & Reading, with headquarters at Philadelphia, Pa., has already been announced in these columns, was born on July 19, 1867, at Jessup, Md., and was educated in the general schools. He began railway work in October, 1882, with the Baltimore & Ohio at Baltimore, Md. He subsequently served as a general clerk on the Long Island Railroad, and then as general clerk and later as chief clerk in the freight department of the Philadelphia & Reading. He then was appointed freight claim agent of the same road and three years later was promoted to assistant general freight agent. In 1909 he was appointed general freight agent and since July, 1918, served as assistant freight traffic manager until his recent appointment as freight traffic manager of the Philadelphia & Reading, the Central of New Jersey, the Baltimore & Ohio New York Terminals and associated lines.

Engineering and Rolling Stock

H. Stringfellow has been appointed district engineer of the Southern Railroad and associated railroads, with office at Charlotte, N. C., and **F. Furlow** has been appointed engineer of surveys with office at Washington, D. C.

A. Yappen, district carpenter of the Chicago, Milwaukee & St. Paul at Chicago, has been appointed assistant engineer in charge of bridge maintenance, inspection and erection on lines east of Mobridge, S. D., with the same headquarters, succeeding **C. N. Bainbridge,** recently promoted to engineer of design.

N. Bell, formerly master mechanic of the Minnesota and Iowa divisions of the Illinois Central with headquarters at Waterloo, Iowa, who has just returned from military service, has been appointed to the same position, succeeding **O. A. Garber,** who has been transferred to Memphis, Tenn., succeeding **W. H. Watkins,** granted a leave of absence, effective January 1.

William Gemlo, master mechanic of the Minneapolis & St. Louis at Marshalltown, Iowa, has been promoted to superintendent of motive power and rolling stock with headquarters at Minneapolis, Minn., to succeed **G. W. Seidel,** recently resigned to become superintendent of motive power of the Chicago & Alton and the Chicago, Peoria & St. Louis, with headquarters at Bloomington, Ill.

Purchasing

G. W. Alexander, storekeeper of the Central of Georgia, has been appointed general storekeeper, with headquarters at Macon, Ga.

J. H. Nichols has been appointed general storekeeper of the New York, Chicago & St. Louis with headquarters at Cleveland, Ohio.

E. A. Workman, storekeeper of the Baltimore & Ohio Eastern Lines, with office at Keyser, W. Va., has been appointed district storekeeper of the Maryland district, with headquarters at Camden station, Baltimore, Md., vice **O. V. McQuilkin,** deceased.

Charles W. Yeamans, assistant engineer of the Chicago & Western Indiana, has been appointed purchasing agent of that road and the Belt Railroad of Chicago, with headquarters at Dearborn station, Chicago, succeeding **Rov Benson,** transferred to other duties.

Corporate

Executive, Financial, Legal and Accounting

G. R. Martin, vice-president and controller of the Great Northern at St. Paul, Minn., has been elected also president of the Minnesota Transfer Railway Company.

C. G. Nelson, federal auditor of the Chicago, Milwaukee & Gary, with headquarters at Rockford, Ill., has been appointed auditor of the corporation with the same headquarters.

Eugene E. Fairweather has been appointed assistant counsel of the Canadian National Railways with office at Ottawa; **Archibald J. Reid, K.C.,** and **Reginald H. M. Temple,** at Toronto, and **H. F. Alward,** general solicitor and claims agent of the Canadian Government Railway at Moncton, N. B., have been appointed general solicitors of the Canadian National Railways, all with offices at Montreal, Que.

Obituary

M. P. Washburn, formerly chairman of the Southeastern Mississippi Valley Association, with office at Louisville, Ky., died in New York on January 4, at the age of 64.

THE LONDON IRON & STEEL EXCHANGE, LTD., has been formed, says the Railway Gazette, of London, by a group of some forty of the leading British firms engaged in the iron, steel and metal industries. It comes into being at an auspicious moment, when the whole tide of industrial activity is being turned from purposes of war to purposes of peace. The secretary's office is at 113, Queen Victoria street, E.C.4, and for the purposes of its business the London Iron & Steel Exchange, Ltd., has secured the great Pillar Hall of Cannon Street Hotel.